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ABSTRACT

The system approach to planning and managing educational change features the use of an adaptive framework and a strategy for planned system change. The approach focuses management attention upon (1) relevant future states of expectations or goals, (2) present and future state variables and contexts, (3) human organization factors, and (4) alternative programs that can be implemented to facilitate goal attainment and change. This document presents a strategy for planned educational change based on relevant activities in (1) educational planning and management; (2) system analysis, synthesis, and evaluation; (3) policy formulation; and (4) policy implementation. The strategy is presented in the form of a procedural network containing 26 interrelated and interdependent activities. These activities can be subset into many subactivities or tasks that can be performed to improve policy formulation and policy implementation processes in public education. Work reported herein was performed pursuant to an ESEA Title III grant. (A related document is EA 003 245.) (Author/LLR)

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# A SYSTEM APPROACH TO PLANNED CHANGE IN EDUCATION

## Volume II. A Strategy for Planned Change in Education

by

Donald R. Miller

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September 1970

# PREFACE

A system approach to planned change can be used to improve and renew both public education and its leadership potential. It can be used to resolve complex educational change and need-related problems. To a large extent, it involves the systematic application of an objective planning and management attitude using an adaptive framework and strategy for effecting change.

It must be realized that the most serious limitation of this approach resides in the individual or group who uses it as a tool. Many skills and knowledges must be gained before significant levels of proficiency and confidence are developed. The quality of derived benefits depend upon the user's expertise. Expertise is gained through knowledge, training, and experience--we "learn by doing."

A Strategy for Planned Change in Public Education was preceded by An Adaptive Framework for Public Education and Educational Management. As a set, these Volumes present A System Approach to Planned Change in Education. The subjects discussed in these documents represent the collective efforts of four and one-half years of OPERATION PEP experience. They present many planning and management ideas which have been tested by educational leaders in California.

In preparing this document, the author received the willing help of the staff of OPERATION PEP. Many of the materials and ideas presented

herein were formulated through interaction with project participants and consultants whose help is gratefully acknowledged.

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# CHAPTER I

## PLANNED SOCIETAL CHANGE AND PUBLIC POLICY DECISION MAKING

Man has modified his cultural, societal, and environmental setting so radically that he must now modify himself in order to exist in his new surroundings. The changing nature of his cultural, societal, and environmental setting promises, through complex culture-society-environment interaction and interrelations, to produce an uncertain future marked by ineradicable surprise. Since the nature of human cultures, societies, and life environments are in large measure evolutionary, this makes exact foreknowledge about man's future existence impossible. Currently available evidence reveals that the explosions of human population and knowledge will continue. Scientific advances will increase the pace of the technological revolution, expand human capabilities, and extend the range of future probabilities. The sociological revolution promises an age of discontinuity in human development. To an extent never true before in his history, man poses a threat to the realization of his unique potentialities.

### Society and Planned Change

The nature of human existence has undergone a great mutation in

the last twenty-five years. So pervading and complete has been this change, and so complex has life become that the very nature of our democratic society has been affected. Chase observes that:

> The transformations in culture and society throughout the world have been so radical in the present century as to be apparent to even the superficial observer. Changes in the technologies through which man adapts himself to his environment are so rapid as to justify the oft-repeated assertion that, for the first time in history, change has become an ordinary occurrence, and adaptation to a succession of changes has become a necessity for survival. The highly developed techniques for discovering and testing knowledge which are known collectively as science are the chief propellants of change; and the constantly elaborated technologies of communication, production, transportation, and warfare, in interaction with new techniques of inquiry, serve as accelerators of change.[1]

Regarding social change in the sixties, Bowen postulates that:

> Future historians will probably describe our time as an age of conscious social change. The change we are witnessing includes the rapid growth of population, the massive flow of peoples from rural areas to the cities, the steady growth of national wealth and income, the rise of oppressed and submerged peoples, the spread of mass education, the extension of leisure, the venture into space, and the frightening increase in the destructiveness of military weapons. Change is worldwide in scope. Not all nations or regions are participating to the same degree or have reached the same stage, but almost no part of the world has been left untouched.[2]

Bowen goes on to discuss the positive and negative aspects of technological change for members of our democratic society. He concludes that:

> The vast majority of people quite rightly have accepted technological change as beneficial. They recognize that it has led to better working conditions by eliminating many,

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[1]Francis S. Chase, "School Change in Perspective," The Changing American School (Chicago: The University of Chicago Press, 1966) p. 275.

[2]Howard R. Bowen, "Introduction" in National Commission on Technology, Automation, and Economic Progress, Technology and the American Economy, (Washington, D.C.: Government Printing Office, 1966) p. xi.

perhaps most, dirty, menial and servile jobs; that it has made possible the shortening of working hours and the increase in leisure; that it has provided a growing abundance of goods and a continuous flow of improved and new products; that it has provided new interests and new experiences for people and thus added to the zest for life.

On the other hand, technological progress has at various times in history . . . raised fears and concerns which have led to some questioning of its benefits. One of these concerns has been the fear of annihilation by "the bomb." Another concern has been the apparently harmful influences of modern technology on the physical and community environment--leading to such problems as air and water pollution, inadequate water supply, unsatisfactory solid waste disposal, urban congestion and blight, deterioration of natural beauty, and the rapid depletion of natural resources. Another concern has been the apparently harmful influence of urban, industrial, and technical civilization upon the personality of individual human beings--leading to rootlessness, anonymity, insecurity, monotony, and mental disorder. Still another concern . . . has arisen from the belief that technological change is a major source of unemployment.

As a nation we have willingly accepted technological change because of its many benefits, but we have never been fully successful in dealing with its problems, even when the pace of technological advance and the growth of the labor force were less rapid than today.[3]

In spite of these obvious problems and needs for change, the nations of the world are striving for even higher levels of scientific and technological achievement. Despite the need for corresponding development in the social sciences and the humanities, modern societies are only providing token support for advances in these areas. Demands for change are now being heard but primary emphasis is still being placed on technological achievement. Competition for natural resources, including human minds, is worldwide and is becoming more intense. Emerging nations are striving to develop their own scientific and technological capabilities in an effort to emancipate themselves from dependency and exploitation by more advanced societies. Even though

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[3] Ibid., pp. xi-xii.

the populations involved in these movements oppose each other, they all depend upon and regard public education as the vehicle for planned change in society.

Demands for planned change in society can be expected to intensify in the future requiring perpetual renovation of existing societal structure and organization through the innovative utilization of new knowledges, new skills and competencies, and extended human capabilities for change. Rapid societal change will require ordered technological and sociological obsolescence and regular recycling of technical and professional personnel through carefully planned educational programs. It will be necessary to provide for individual improvement and renewal within orderly patterns of organizational improvement and renewal. These societal change requirements will prompt educational efforts unparalleled in the history of man.

Regarding the implications for education or prospective changes in society, Miller states:

1. That change is inevitable;
2. That rapid change will continue;
3. That some changes will be beneficial to society, others may become harmful;
4. That to a marked extent man can plan and guide change;
5. That education is an important factor in the change process;
6. That education must also change rapidly to meet the challenge of change;
7. That planning rather than expediency should be the mode of operation in order to assure acceptable results;
8. That long-range planning is essential, particularly since time and distance have been reduced through improved technology;
9. That the geographic environment in which change, planning and education take place must be broader than a community, even a state, as large as a region, perhaps as expansive as the nation itself.[4]

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[4]Paul A. Miller, "Major Implications for Education of Prospective

These almost self-evident assumptions constitute a basic list of propositions that can be used to study education as a revolutionary force for planned societal change.

## Public Education as a Revolutionary Force for Planned Societal Change

The public school is the most important instrument that society has at its disposal to preserve its heritage and to facilitate its orderly evolution. When used for mass education, public schools constitute a revolutionary force for societal change. In this regard, Clark states that:

> Mass education also now takes the stage as one of the major revolutionary forces of the twentieth century, especially in traditional societies undergoing modernization where the effects of education in transforming the social structure are crucial in national development. Mass education involves the populace in the operations of the schools and extends concerns about the effects of schooling on individual fate. At the same time that men care more, however, education grows more opaque to the quick and easy glance. The conventional wisdom of the casual observer falls behind as the augmenting size and deepening complexity of education mask many of its characteristics. The understanding of education that everyone possesses from the remembrance of things past, already distorted by sentiment and myth, is confounded by the changing nature of the educational enterprise.[5]

In his final words, Clark implies that "change begets change." Thus, as societal change is effected through mass education the nature of

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Changes in Society" in Edgar L. Morphet and Charles O. Ryan (eds.) Implications for Education of Prospective Changes in Society, (Denver, Colorado: Designing Education for the Future, 1967) p. 3.

[5]Burton R. Clark, "Sociology of Education," in Robert E. L. Faris (ed.) Handbook of Modern Sociology, (Chicago: Rand McNally and Company, 1964) p. 734.

the educational enterprise is changed. This presents a continuing challenge to educational organizations.

Regarding societal change and this type of challenge, Maheu states that:

> The universal surge of progress in the second half of the twentieth century offers to education an inspiring challenge. In fact, mankind is passing through a profound mutation caused by three explosive factors: the increase of population; the speed at which certain knowledge becomes out-dated and technical progress advances; and political emancipation. As a result, education must also undergo a radical mutation on a scale which can hardly as yet be fully appreciated. Many more people have to be educated for a continually increasing span of their lives so that they may absorb an ever-expanding and changing body of knowledge.[6]

The challenge of change for education can be expected to grow as rapid cultural evolution continues. An unanswered challenge of this nature will produce societal forces capable of converting the challenge of change into demands for change and revolutionary crises. Educational organizations must equip themselves to act in accord with the challenge or be prepared to respond to increased demands for change and incidents of crises.

The very innovations that produced this rapid scientific and technological change can be used to find and solve the many societal problems that have developed as a result of their use. Systematic problem-finding, problem-solving, planning, and management techniques can be used to plan change alternatives and determine the societal costs and values that can be associated with the expected outcomes of change. Society has at its disposal the methods-means and the

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[6]Rene Maheu, Director General UNESCO in the preface to Wilbur Schramn and others. The New Media: Memo to Educational Planners, (Paris, France: UNESCO: International Institute for Educational Planning, 1967).

capabilities for effecting planned change. Its successful continuity necessitates that goals be set and change be effected. To be effective, society must develop more adaptive systems which can meet new demands, assume new roles, and fulfill new requirements. This type of development requires massive human adjustments that only can be accomplished through public education. In short, to an extent never true before, schools represent the singular mechanism in our society for developing the human capabilities which these changes demand.

## Public Education as a Vehicle for Effecting Planned Societal Change

Our democratic society looks to its state systems of public education to preserve its heritage and contribute to its orderly evolution. Discussions of cultural evolution seldom dispute the primary role of education in societal change. As President Kennedy stated:

> Our progress as a nation can be no swifter than our progress in education. Our requirements for world leadership, our hopes for economic growth and the demands of citizenship itself in an era such as this all require the maximum development of every young American's capacity. The human mind is our fundamental resource.[7]

With each passing generation, the accumulated wisdom of mankind is expanded. Each new generation is afforded vistas of opportunity that were unavailable to their predecessors. The accumulated desires, problems, and needs of society are also passed along. Each generation,

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[7]John F. Kennedy in his address to the 1964 Annual Convention of the National Education Association.

then, is confronted with both the cost and value aspects of cultural and societal evolution. Depending upon the balance these aspects produce in the world environment of the new generation, they are judged as assets or liabilities in the advancement of human civilization.

The heritage of each new generation is a network of state public education systems. These systems are controlled primarily by members representative of older generations. The new generation's demands and capabilities to effect needed changes are often stifled by the members of society who are "in control." Systems developed in the past to achieve the goals of past generations, are not, in all probability, either suited nor equipped to cope with present or probable future states, situations, and conditions.

There is common agreement in our society regarding the need to create new educational programs which will facilitate the achievement of desired future societal states or goals. The development, installation, and operation of such programs will be impeded by several fundamental societal issues that must be resolved:

1. What benefits does society and/or should society reasonably expect to receive as outputs from its programs of formal education?

2. Why does society and/or should society expect to receive such outputs and/or valued benefits?

3. What societal factors should be considered and what procedure should be followed in the derivation, specification, and negotiation of educational purposes?

4. Who is responsible and/or who should be made responsible for setting educational goals and objectives?

5. What pattern of human involvement is required to set responsive and responsible educational purposes in a particular society?

6. What criteria can be used to determine the validity, relevancy, feasibility, acceptability, and reliability of educational purposes?

7. What trade-offs should society be willing to make relative to purposes and priorities, outputs and resulting societal benefits, alternative choices and probable consequences, available inputs, and organizational capabilities to produce desired outputs?

8. What criteria and procedures can be used to evaluate individuals' educational achievements, determine the societal costs and values of such achievements and, thereby, determine the effectiveness of educational programs?

The role of formal education and individual learning can be related directly to society's continuous need to improve, enlarge, and renew its human intellectual resource potential. A society must develop these potentialities before it may realize maximum benefits from its change opportunities. The center of focus in planned societal change is individual learning and instructional programs which facilitate learning effectiveness.

To learn is to change. Learning affects an individual's total personality. It produces changes in an individual's behavior which influence the quality and effectiveness of the interactions and inter-relations he establishes and maintains between himself and his fellow men, his culture, and his environment. The cumulative effects of learning by individuals result in continuous societal and cultural change. New generations do not start afresh--they are afforded a heritage of past learning. With each passing generation, human knowledge and potentialities expand and new vistas of opportunity become possible. To be successful, an individual must accept the inevitability of continuous change and the challenge of an uncertain future marked by ineradicable surprise. Since probable alternative futures cannot be foreseen with any marked degree of certainty, the individual must learn how to cope with uncertainty and learn how to anticipate change.

The most valuable type of learning experience, in this regard, is one that teaches the individual how to learn and, thereby, equips him for life-long learning and change.

Since planned behavioral change by individuals is essential for its continuity and effectiveness, society cannot afford to allow individual learning to be a casual process. Systems of public education and instructional programs are the most important instruments society has at its disposal to assure its continued effectiveness in goal attainment and change. An instructional program is a group of closely related and interdependent inputs (resources, information, and energy), activities, and events that are managed according to plan toward the accomplishment of prespecified purposes and related learning outcomes. It is a rational and orderly whole that results when such relevant components as: (1) the learner, (2) the teacher, (3) the curriculum, (4) the methods-means-media, (5) the learning environment, and (6) the psychological and sociological aspects of planned behavioral change have been dynamically integrated to produce needed and desired learning outcomes using available program inputs.

The learning outcomes of an instructional program must provide an effective response to the values, needs, and desires of the individuals to be changed and the society to be served. Uncertainty and forces for change assure that neither the values, needs, and desires of individuals and society nor the purposes to be attained by an instructional program will be stable and unchanging. Planners of instructional programs must learn to anticipate change. They must adopt an approach that will assure the quality and effectiveness of learning outcomes in a changing world.

Instructional programs must be future oriented to assure the relevance of learning outcomes. The principal aim of instructional programs is to facilitate needed and desired planned behavioral change in individuals. To be effective, a program must help each individual develop new skills and competencies, gain new insights and knowledges, and realize new understandings relative to present and probable alternative future societal and environmental contexts that have relevance for him and for society. In this regard, the following questions must be made the expressed concern of instructional program planners:

1. In what kind of world and social environment will current and future learners live?

2. What capabilities and competencies will be needed for success and effective participation in that world?

3. Which of these capabilities and competencies should be made the responsibilities of public education?

4. What instructional programs and learning environments are required to develop desired societal capabilities and competencies?

5. What present organizational factors must be changed to develop, install, and operate necessary instructional programs and learning environments?

Instructional programs must be learner centered to assure that they will accommodate variety and diversity in human personality, growth and development, and potentialities. Many special capabilities and unique characteristics must be considered in every age-level group of individual learners. An instructional program must provide integrated learning experiences which may extend across as many as fifteen of the most formative years in an individual's life span. Each year a systematic course of planned behavioral change must begin anew for yet another age-level group of individual learners. Also, each year planned change experiences must be provided for as many as fifteen different

age levels of learners. Individual members of each age-level group are expected to make continuous progress toward prespecified short and intermediate-range objectives and related long-range goals. An instructional program must assure that each individual makes satisfactory and continuous progress toward his and society's goals and objectives.

In an effort to place public education in a societal change perspective, let us review several relevant assumptions regarding the role of individuals in planned societal change.

First, the individual human being is the basic unit of structure and function in human societies. Change in societal behavior is only possible as a result of changes in the behavior of its individual members. In addition, each generation of human beings is uniquely characterized by its capacity to begin where former generations left off. People are able to bind their activities to time periods and develop or enlarge their range of expectations relative to future time.[8] This time-binding capacity of humans enables them to organize collective efforts in goal attainment and, thereby, to set increasingly more demanding goals for themselves.

Second, there is nothing more important to any society than its future. All human societies are purposive in nature. Their memberships establish goals or future states of expectation which, if attained, will produce desired change and benefits for their memberships. Change is an inevitable fact of being, societies and their component organizations are in a continuous process of change. The nature and quality of this

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[8]Alfred Korzybski, Manhood of Humanity (Lakeville, Connecticut: The International Non-Aristotelian Library Publishing Company, 1921), p. xiii.

continuous change may or may not contribute to the attainment of desired purposes unless it is directed and controlled.

Third, man with his time-binding consciousness and his tremendous potentialities and capabilities for change can create goal-oriented models of future states he desires to achieve. He is able to communicate his ideas to fellow members of society and advocate their attainment. He can: (1) diagnose present problems, needs, and desires; (2) develop a prognosis regarding their probable causes; (3) specify requirements and criteria for their satisfaction and/or fulfillment; (4) set goals toward which efforts can be directed; and (5) prescribe alternative courses of action to be followed in the accomplishment of desired change.

Fourth, to a significant degree man can manage societal change toward the attainment of desired goals. The management of change requires the regulation of human activities in terms of goal-related future events. Organizations are societal vehicles for the accomplishment of goals and, within each organization, goal-oriented programs are used as vehicles for the regulation of performance in terms of goal-related future events. Our society depends on a multi-level public policy-making structure to act as a regulatory mechanism by deciding the direction, course, quality, method, degree, rate, and type of goal-directed action and change. Thus, the central element in societal processes for change is public policy decision making.

## Public Policy Decision Making

A policy is a preferred course of action and change that is selected

from among alternatives, in light of alternative probable futures and consequences, to guide and influence present and future decisions. Policies serve as guides for thinking and acting in specific situations. As statements of intent, policies are made to guide others in decision making without being so specific as to impose decisions. In organizations, policies are a type of strategic plan and, as such, they are generalizations or abstractions regarding expected future behaviors. In this regard, Katz and Kahn state that:

> Organizational policies are abstractions or generalizations about organizational behavior, at a level which involves the structure of the organization. . . . As abstractions about organizational behavior, policy statements may be either prospective or retrospective. If the latter, we are dealing with a process of recognition; the pattern was there but was not previously stated or formally acknowledged. . . . prospective generalizations about what organizational behavior shall be. . . . compromise a category of decisions: those decisions within an organization which affect the structure of the organization.[9]

With this definition of "policy" in mind, let us consider the term "decision-making" and look forward to the combination of both concepts in "policy decision-making."

Decision-making is the making of choices among possible alternatives in light of the probable future consequences of each alternative for the organization. Shackle states that: "Decision . . . is choice, but not choice in face of perfect foreknowledge, not choice in face of complete ignorance. Decision . . . is choice in face of bounded uncertainty."[10] Thus, the expected consequences of each choice cannot

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[9]Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1966), p. 259.

[10]G.L.S. Shackle, Decision Order and Time (Cambridge, England: The Cambridge University Press, 1961), p. 5.

be defined accurately but only probabilistically in terms of a range of possible outcomes. Usually, decisions are made under conditions of incomplete knowledge and without the benefit of complete, accurate, relevant, and timely information. The resulting lack of knowledge introduces elements of uncertainty in each decision. Uncertainty introduces a spectrum of risks or probabilistic successes and/or failures into the decision process.

Decisions are made at every level of performance in organizations. The quality of an organization's legislative, executive, managerial, and operational decisions contribute to both its efficiency and effectiveness. For this reason, decision making is a vital organizational process that determines the quality of an organization's effective productivity in achievement. Regardless of the complexity and diversity of an organization, its decisions are made by individuals.

Insight relative to decision making by individuals can be gained by studying Dubin. He states that:

> Decision-making involves a conscious choice or selection of one behavior alternative from among a group of two or more behavior alternatives. Three steps are involved in the decision-making process. First, an individual must become aware of as many as possible of those behavior alternatives which are relevant to the decision to be made. Secondly, he must define each of these alternatives, a definition which involves a determination of as many as possible of the consequences related to each alternative under consideration. Thirdly, the individual must exercise a choice between the alternative, that is, make a decision.[11]

Cyert, Simon, and Trow present a three-step set of considerations that offers additional insight:

1. An individual is confronted with a number of different,

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[11]Robert Dubin, Human Relations in Administration (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968), p. 380.

specified alternative courses of action.
2. To each of these alternatives is attached a set of consequences that will ensue if that alternative is chosen.
3. The individual has a system of preferences or "utilities" that permit him to rank all sets of consequences according to preference and to choose that alternative that has the preferred consequence.[12]

Although both of the foregoing quotations present decision making as a three-step process, they do not imply that it is easy or simple. Organizational decision making is made complex by requirements for human involvement and the nature of human choice in a real world. Regarding human involvement in the processing of information and the exercising of choice, Engler asks:

1. Who . . . gets into the act, and how are they to be involved in providing, receiving, and processing information?
2. What . . . units for the processing of information by people--specialists and generalists--need to be created and how should they be "checked and balanced" . . .?
3. How will these units . . . account for such functions as: deliberation and debate; negotiation and voting; execution of decisions?
4. How is special expertise made relevant, and how are technical standards decided upon, enforced, modified, influenced by nonspecialists, etc.?
5. How is "judicial review" performed relative to the rules for operating such a system of social mechanisms?[13]

The nature of decision making as a process requiring human choice in a real world was considered by Cyert, Simon, and Trow. They define several constraints to be present in real world decision-making situations:

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[12]Richard M. Cyert, Herbert A. Simon, and Donald R. Trow, "Observation of a Business Decision," Journal of Business, Vol. XXIX, 1956.

[13]U.S., Congress, Senate, Special Subcommittee on Utilization of Scientific Manpower of Committee on Labor and Public Welfare, 90th Cong., 1st Sess., 1967, by Richard E. Engler, Jr., Human Sciences Research, Inc., McLean, Virginia.

1. The alternatives are not usually "given" but must be sought, and hence it is necessary to include the search for alternatives as an important part of the process.
2. The information as to what consequences are attached to which alternatives is seldom a "given," but, instead the search for consequences is another important segment of the decision-making task.
3. The comparisons among alternatives are not usually made in terms of simple, single criterion . . . One reason is that there are often important consequences that are so intangible as to make an evaluation . . . difficult or impossible. In place of searching for the "best" alternative, the decision-maker is usually concerned with finding a satisfactory alternative--one that will attain a specified goal and at the same time satisfy a number of auxiliary conditions.
4. Often, in the real world, the problem itself is not a "given," but instead, searching for significant problems to which organizational attention should be turned becomes an important organizational task.[14]

Authorities differ with respect to elements of the decision-making process, but there is common support for particular elements when organizations are the objects of concern. The elements of decision making in organizations include:

1. The inherent qualities of individual members of the organization.
2. The goals, priorities, and objectives relevant to effective achievement.
3. The incumbent and probable future roles, norms, and values of individual members.
4. Human perceptions of relevant performance states, situations, and conditions.
5. Knowledge of the past, present, and probable future states of the organization.
6. The inherent qualities of the organization considered as a whole.
7. The relevant alternative choices which can be made.
8. The perceived probable consequences of each alternative choice.

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[14]Cyert, Simon, and Trow, op. cit.

9. The analysis, evaluation, and interpretation of choice-consequence relationships using acceptable criteria. Such criteria are derived from: (a) the established priorities of the organization; (b) the relevant organizational, societal, and environmental factors affecting performance; and (c) the probabilities of achieving desired outcomes and/or end states of performance.

10. The decision act which decides the course and/or the method of action to be taken.

With the foregoing discussions of "policy" and "decision making" clearly in mind, let us consider "policy decision making" in organizations.

Policy decision making or, more simply, policy making is an organizational process, performed by individuals, that sets the stage for organizational change. It is the "decision aspect of that level of leadership which involves the alteration, origination, or elimination of organizational structure."[15] As a process involving both the retrospective and prospective aspects of organizational behavior, it includes consideration of both effectiveness and efficiency in terms of changing requirements. Thus, policy making relates to both the input-output transformations and the input and output transactions of the organization in terms of its preferred future states or goals.

Policy decision making has certain dimensions as a process which Katz and Kahn use to distinguish between types of policy decisions in organizations. They state that:

> Decision-making can be considered in terms of three basic dimensions; the level of generality or abstraction of the decision; the amount of internal and external organizational space affected by the decision; and the length of time for which the decision will hold. . . .
>
> The combination of these three dimensions enables us to distinguish among (1) policy-making as the formulation of substantive goals and objectives, (2) policy-making as the formulation of procedures and devices

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[15] Katz and Kahn, op. cit.

> for achieving goals and evaluating performance, (3) routine administration, or the application of existing policies to ongoing operations, and (4) residual, ad hoc decisions affecting organizational space without temporal implications beyond the immediate event.
>
> The first two categories of decision-making are clearly in the area of policy formulation. . . . The third category, routine administration, is not policy determination in any sense of the term; it includes the many small decisions which implement existing policies by prescribed means. The residual class of ad hoc decisions represents policy only in a negative sense. Decisions without acknowledged implications for the future imply a lack of continuity in organizational direction; they are policy-making only in the sense that the organization has no policy.[16]

The implications of this statement for public policy decision making in education are obvious. Many of the decision-making requirements placed on boards of education are representative of category three rather than categories one and two. In addition, policy handbooks more often than not tend toward the listing of administrative rules which produce rigidity in organizations rather than establishing guides for future action and change. When policy decision making is placed in a dynamic, futuristic perspective, the importance of categories one and two are apparent. Realizing the limited time available to decision makers who decide public policy in education, something must be done to assure that their efforts are directed toward more substantive issues such as those suggested in categories one and two.

Before we enter a discussion of policy formulation and policy implementation parameters, let us review several relevant aspects of decision making in organizations. The following points are based primarily upon the work of Feldman and Kanter who reviewed organizational

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[16] Ibid., pp. 256-260.

decision-making processes from the standpoint of organizational needs to select alternative courses of action for change.[17]

1. Organizations are coalitions of groups, each possessing its own goals. A major concern in decision making is the resolution of conflict that stems from lack of goal compatibility.

2. The philosophy, purposes, priorities, and policies of an organization and those of related organizations in its societal and cultural environment are important constraints on an organization's decision-making process.

3. Each decision event and situation establishes relationships between the decision makers, the organization, and those who will be affected by the decision.

4. The decision problem is that of selecting a path for change that connects the present or initial state of the organization with some preferred future state or goal.

5. A decision event and situation may consider one or more initial states and one or more future states or goals.

6. Each alternative set of initial and future states can be connected using several simultaneous paths and/or alternatives for action and change.

7. Political, legal, social, economic, and technical limits and constraints restrict organizations from generating all alternatives. Generally, alternatives considered represent only slight variations in current choices and these usually are restricted to means of changing input-output transformation practices.

8. In most complex decision situations, the number of possible alternatives is large, they are not given nor are they obvious, they must be searched for and/or generated, a rule and means for generating them is usually unavailable, and the consequences of each are difficult if not impossible to estimate.

9. The consequences attached to alternatives by a decision maker depend on the quality of established relations and the joint behavior of the decision maker, the organization, and their respective environments.

10. Decision makers in organizations are constrained by organizational

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[17] Julian Feldman and Herschel E. Kanter, "Organizational Decision Making" in James G. March (ed.), Handbook of Organizations (Chicago: Rand McNally & Company, 1965), pp. 614-649.

rules and procedures that produce unanticipated consequences during decision making. Frequently, selection is made among alternative choice-consequence relations based on rules that specify preferred alternatives if specific contingencies occur.

11. The quality and quantity of search required to identify an organization's significant decision problems and the related alternative choices and consequences often exceed the performance capacity and capability of the organization.

12. Quantitative decision-making models have been found, for the most part, as neither accurate descriptive models, nor reliable predictive models, nor feasible prescriptive models regarding planned change in individual and/or organizational behavior.

Quality results from organizational policy decision-making processes depend upon the nature and quality of leadership behavior demonstrated prior to and after critical decision events. A complex system of policy formulation and policy implementation interaction-influence can be defined relative to the separate perspectives of those who are primarily oriented to aspects of human organizations as opposed to those who are primarily oriented to system planning and management. A strategy for planned change in public education must be responsive to the policy formulation and policy implementation requirements of educational organizations.

## CHAPTER II

## POLICY-FORMULATION AND POLICY-IMPLEMENTATION PARAMETERS IN ORGANIZATIONAL POLICY DECISION MAKING

The perspective of policy-formulation and policy-implementation parameters in policy making that is presented in this chapter is separated into two parts. In the first part, the author will present a "human organization" perspective that focuses upon human behavioral factors in policy making. It is termed "human organization" because it is the perspective that would be afforded an observer who was located in a position from which he could view the effects of complex determinants on the dynamics of human behavior that is demonstrated both inside and outside the organization relative to policy making.

In the second part, the author will present a "system planning and management" perspective that focuses upon organizational change alternatives design, development, implementation, and use considerations. It is termed "system planning and management" because it is the perspective that would be viewed by an observer who was located in a position from which he could study the complexity and dynamics of system planning and management activities that are performed relative to policy making.

These perspectives are artificial and were chosen by the author to demonstrate the need for the deliberate integration of both sets

## POLICY-FORMULATION AND POLICY-IMPLEMENTATION PARAMETERS

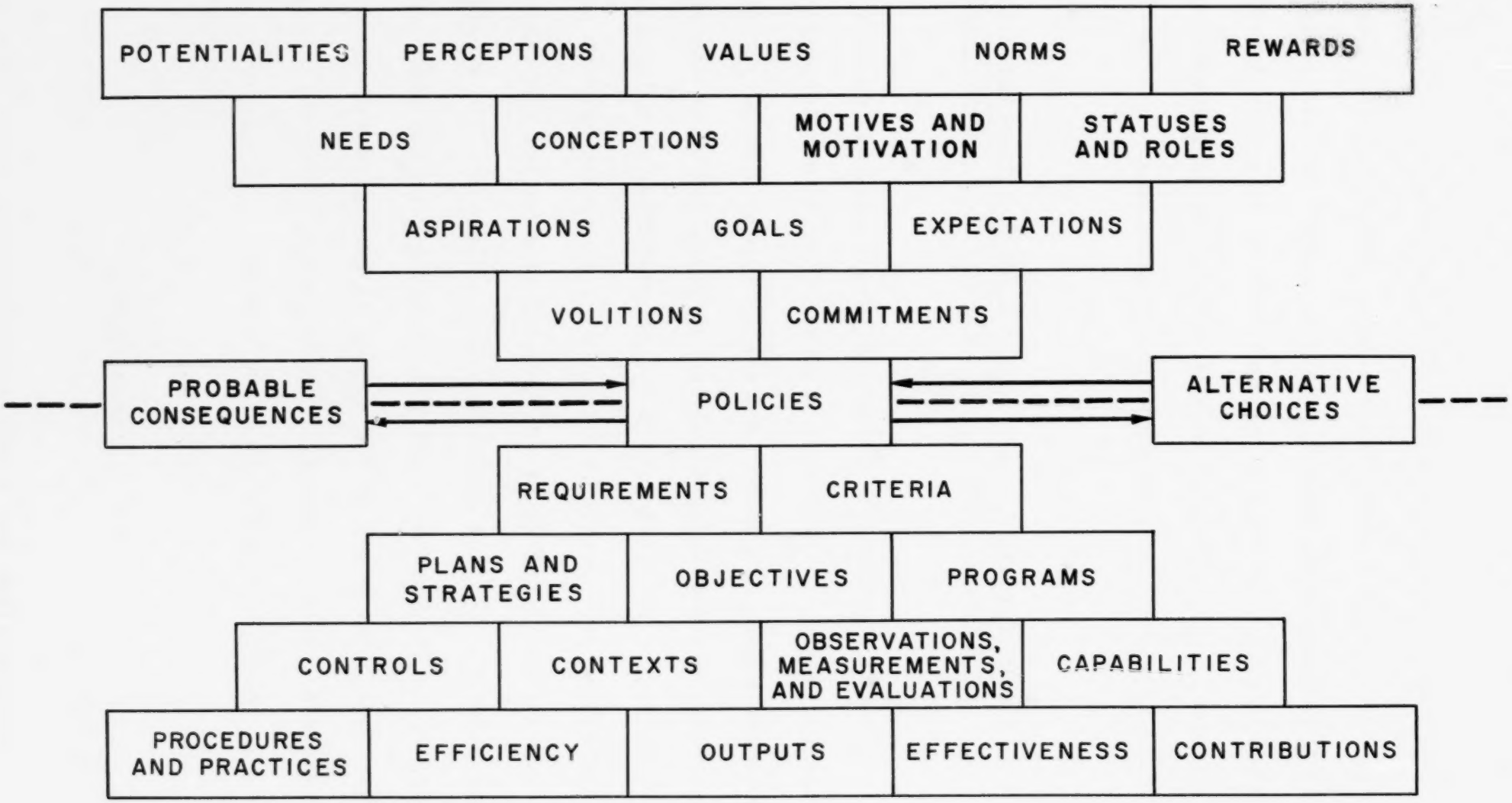



Figure 1

of considerations in an effort to insure the effectiveness of programs of planned change in public education. The policy-formulation and policy-implementation parameters to be considered are presented in Figure 1. Each of these parameters must be carefully assessed to determine its significance in both the policy-formulation and the policy-implementation processes of organizations.

## Policy-Formulation and Policy-Implementation Parameters in a Human Organization Perspective of Policy Making

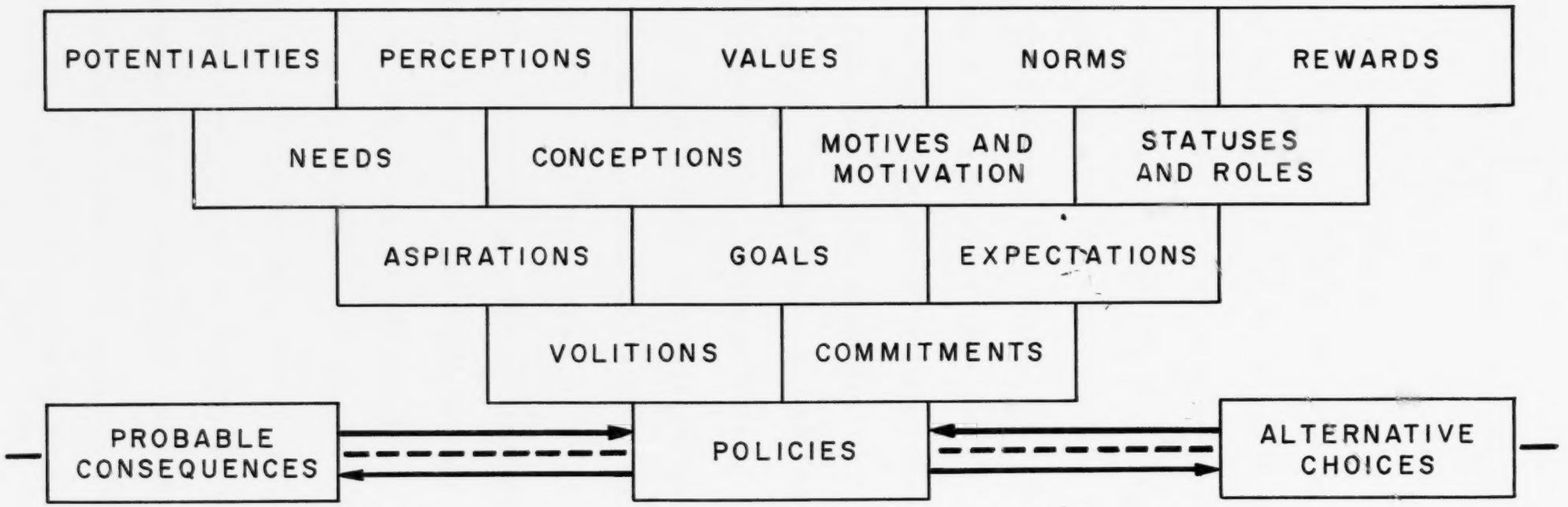
A human organization policy-making perspective focuses upon human behavioral considerations rather than upon system planning and management considerations. The policy-formulation and policy-implementation parameters discussed represent one approach and offer one integrated explanation of policy-making interaction-influence using a human organization perspective. The author will not attempt to provide an exhaustive treatment of the parameters selected for discussion, but will attempt to define each parameter and place it in a policy-making perspective (Figure 2). Each parameter will be discussed using an individual human being as the object of reference but the reader may substitute the terms "group," "organization," "system," or "society" for the term "individual" if he so chooses.

### Potentialities

Potentialities are states and/or modes of being which an individual is judged capable of becoming and/or doing before he becomes and/or

Figure 2

POLICY-FORMULATION AND POLICY-IMPLEMENTATION PARAMETERS
IN A HUMAN ORGANIZATION PERSPECTIVE OF POLICY-MAKING



does it. They are that part of the entire meaning of an individual's being which defines the nature and qualities of his potential existence as differentiated from his real existence at a point-in-time. The reality of an individual's point-in-time existence must in all cases be viewed in terms of the retrospective and prospective aspects of his life history. The retrospective aspect sums up an individual's career to the present point-in-time. The prospective aspect sums up an individual's probable alternative future careers. The prospective aspects of an individual's life history cannot be defined except in relation to the retrospective aspect which serves as its concrete referent and in relation to the individual's expected personality and behavioral attributes in probable future states.

The assessment of an individual's potentialities can be separated into three conscious elements: (1) a retrospective element focusing on the expectation that when an individual has experienced a career, the nature and qualities of the reality of his present point-in-time existence will be consistent with and a part of his life history to the present point-in-time; (2) a prospective element focusing on the expectation that an individual's potential existence encompasses many possible and promising alternative future career opportunities only one sequential set of which will be experienced; and (3) a discriminative element focusing on the expectation that the reality of an individual's existence can be studied in relation to contexts and states which existed in the past, which exist at the present, or which are expected to exist in the future. Discrepancies in the nature and qualities of the reality of an individual's existence can be defined by observing and measuring actual and/or simulated differences in an individual's

states and/or modes of being at selected points-in-time. The most instructive and relevant change evidence results from measurements of differences that will exist between the present point-in-time and selected future points-in-time. The probable nature and qualities of the reality of an individual's existence are defined, for purposes of measurement, in terms of what they conceivably will be when the selected future points-in-time become the present. Each difference discriminated defines an expected gap between "what is" and "what probably will be" regarding the reality of the individual's existence in different life history settings that are defined relative to different points-in-time using available knowledge.

Cantril has shown that individuals who are unaware of possibilities for action and who are unaware of their needs and problems tend to acquiesce to circumstances. People sharing this state of development demonstrated little personal involvement with societal problems. However, once they awakened to their potentialities and developed an awareness of new possibilities that promised to increase the range or quality of their satisfactions, they acquired new aspirations and learned new purposes. They become psychologically mobilized to pursue new courses of action. Their perceptions of goal-related needs and problems became sharpened and they adopted new values.[18] The results of Cantril's work clearly demonstrates the need for more accurate assessments of human potentialities in planned change efforts.

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[18]Handley Cantrol, The Pattern of Human Concerns (New Brunswick, New Jersey: Rutgers University Press, 1965), pp. 301-314.

## Perceptions

An individual's perceptions are his processes and patterns of sensitivity and response to stimuli. They are functions of an individual's: (1) situational field or setting; (2) previous societal, cultural, and environmental conditioning; and (3) unique sensory and response capacities, capabilities, training, and experiences. An individual's processes of perception include the selection, organization, appraisal, and interpretation of specific stimuli in a situation, according to prior learning, values, goals, needs, desires, interest, experiences, etc.

Individuals exhibit selective perception; that is, they tend to perceive those elements of a situation which support previous expectations, sympathize with currently-held biases, confirm basic beliefs, and otherwise agree with adopted systems of preference. All perceptions are selective in the sense that individuals learn to select relevant stimuli, organize them in rational ways, appraise them using criteria of relevance, and interpret them in terms of both their requirements for understanding as well as their needs to communicate with others.

An individual can develop and use strong positive and negative biases to insure the amplification of selected perceptions in one instance and insulation from undesired stimuli in another. An individual's perceptions are influenced by his values, his conceptions, and his awareness of potentialities. In public education, an individual's perceptions are deliberately sharpened to assure demonstrated proficiencies and competencies relative to how he perceives himself, his fellow men, his cultural origins, and his present and probable

future societal and environmental settings.

## Values

Values are abstract, generalized principles of behavior that have been internalized by an individual and to which he feels strong, emotionally-toned prospective commitments. They provide standards for judging specific acts and purposes. In group situations, overt statements of values are accepted as individual commitments by each group member. Theodorson and Theodorson state that:

> Values provide the generalized standards of behavior that are expressed in more specific, concrete form in social norms. Because of the generalized nature of values, it is possible for individuals who share the same values to disagree on specific norms embodying these values. . . . . Values provide essential organizing principles for the integration of individual and group goals. Because of the strong emotional feeling attached to values and because they serve as standards for judging concrete rules, goals, or actions, they are often regarded as absolute, although the formation and apprehension of values evolve in the normal process of social interaction.[19]

McMurry studied the influence of human values in the altering of individual behavior and the resolution of interpersonal conflict. He concluded that:

> The common denominator of nearly all of these people problems is to be found in the area of values. While it is commonly recognized that values differ widely from person to person and from culture to culture, their influence on people's thinking, acting, and behavior tends to be seriously underestimated. Their influence on the individual is powerful because:

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[19] George A. Theodorson and Achilles G. Theodorson, A Modern Dictionary of Sociology (New York: Thomas Y. Crowell Company, 1969), pp. 455-456.

(1) They principally determine what he regards as right, good, worthy, beautiful, ethical, and so forth (thus establishing his vocation and life goals and many of his motivations, for it may be assumed that he will seek that which he deems desirable).

(2) They also provide the standards and norms by which he guides his day-to-day behavior. (In this sense they constitute an integral part of his conscience.)

(3) They chiefly determine his attitudes toward the causes and issues (political, economic, social, and industrial) with which he comes into contact daily.

(4) They exert a powerful influence on the kinds and types of persons with whom he can be personally compatible and the kinds of social activities in which he can engage.

(5) They largely determine which ideas, principles, and concepts he can accept, assimilate, remember, and transmit without distortion.

(6) They provide him with an almost unlimited number and variety of moral principles which can be employed to rationalize and justify any action he has taken or is contemplating. (If his stand is totally unrealistic, ludicrous, or even harmful, he can still defend it "on principle.")[20]

Since human values guide the selection of preferred choices in light of individuals' perceptions of probable consequences, they must be considered central to both policy-formulation and policy-implementation processes. Commonly-shared values in society are the foundation upon which systems of public education are designed, established, and maintained.

## Norms

Norms are rules or standards of behavior that are binding on the members of a group where they serve in controlling actions, thoughts,

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[20]Robert N. McMurray, "Conflicts in Human Values," Human Relations Series Part I, Reprints from Harvard Business Review, p. 78.

and emotions. They are defined by the shared expectations of group members regarding what range of behavior is to be considered acceptable, appropriate, and applicable to particular situations. Thus, one's role obligation in a group is defined by that group's norms.

Norms of behavior are definite influences in the process of social control and decision making. Holmans defined a norm of behavior as:

> . . . an idea in the minds of the members of a group, an idea that can be put in the form of a statement specifying what the members or other men should so, ought to do, are expected to do, under given circumstances.[21]

Norms of behavior make explicit the forms of sanctioned behavior appropriate for group members and thus have a specific "ought" or "must" quality. Katz and Kahn have stated that norms are defined by three criteria:

> . . . (1) there must be beliefs about appropriate and required behavior for group members as group members, (2) there must be objective or statistical commonality of such beliefs; not every member of the group must hold the same idea, but a majority of active members should be in agreement, (3) there must be an awareness by individuals that there is group support for a given belief.[22]

Zaleznik and Moment underscored three ideas relative to norms of behavior:

> 1. Norms of behavior are informal rules governing what members are supposed to do under given circumstances. They are not actual behavior.
> 2. Norms are specific imperatives or "shoulds" and are limited in application. But the norms derive from experience with more widely applied values and ideals of behavior that are more general than norms, and also in the case of values, more contradictory.

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[21]George C. Holmans, The Human Group (New York: Harcourt, Brace and World, Inc., 1950), p. 123.

[22]Daniel Katz and Robert K. Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1966), p. 52.

> 3. The strength of norms in a group depends on the attractiveness of the group to its members. Where groups satisfy members' needs and induce a strong willingness to stay in the group, the norms tend to be strong. Newly formed groups will have a less well-developed system of norms than groups with a history.[23]

## Rewards

Rewards are positive or negative sanctions that are used by a particular society or group to assure conformity with societal or group norms. Zaleznik and Moment have stated that:

> The capacity of a group to maintain its norms and enhance its solidarity depends on the existence of a system of rewards and punishments. When members conform to the norms and are rewarded, they presumably will be motivated to continue to conform. On the other hand, where deviations from the norms engender punishments that succeed in restoring behavior to an approximation of the norm, control exercised by the group is enhanced. Note the emphasis placed on punishment followed by behavior more in line with the norms. Where punishment fails, the system of norms deteriorates. And there can be no more devastating breakdown in social control than that which follows the infliction of punishments that are too severe or the continuation of punishment when deviation no longer exists.[24]

The effectiveness of a reward system depends upon the ways in which any particular society or group sanctions conformity. Theodorson and Theodorson state that:

> Such a system involves not only the awarding of honors and advantages, but also the withholding of negative sanctions. Reward systems do not necessarily represent the influence of the group as a whole, but may be primarily operated for those who hold power and authority.

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[23]Abraham Zaleznik and David Moment, The Dynamics of Interpersonal Behavior (New York: John Wiley and Sons, Inc., 1964), p. 111.

[24]Ibid, pp. 111-112.

> Leaders justify their control of much of the reward system on the basis of their claim to represent and express the will or best interests of the group or society.[25]

Rewards are penalties or benefits directed at an individual or group to discourage or encourage specific types of behavior. The relative extent to which a specific reward satisfactorily reinforces desired behavior and deters undesirable behavior in the enforcement of a particular norm, is a measure of its adequacy as a behavioral influence. To be effective, a reward must represent an object that enhances the satisfaction of individuals.

## Statuses and Roles

Every person within a given culture is enmeshed in a multitude of social relations which together form a network. To view the individual as occupying the center of such a network on which all his concrete relations converge, is to locate his position or status in society.[26] More specifically, status is position in society; the standing accorded the individual by his fellows; a place on the prestige scale; and a person's orientation in his cultural and societal setting relative to the generalized set of values held by those making the judgment. Each individual has many status positions within a society and therefore each performs a variety of roles.

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[25]Theodorson and Theodorson, Op. Cit., p. 350.

[26]Kurt Long and Gladys Engel Long, Collective Dynamics (New York: Thomas Y. Crowell Company, 1961), p. 6.

Theodorson and Theodorson regard roles as patterns of behavior that are:

> . . . structured around specific rights and duties and associated with a particular status position within a group or social situation. A person's role in any situation is defined by the set of expectations for his behavior held by others and by the person himself. . . . Any given role within a group tends to vary according to the individual who occupies the status, as well as the general membership composition of the group, but if the performance of a role deviates very much from the expected range of behavior, the individual will be negatively sanctioned. . . . Since the unity of self requires a degree of value and behavioral integration, and frequently even a hierarchy of role priorities (according to which is most central to the self), the particular combination of statuses a person has tends to influence the way he performs his various roles. His performance will never exactly correspond to the expectations of others, nor will it meet all the expectations he may have of himself.[27]

## Motives and Motivation

Motives are conscious elements which influence or enter into the determination of volition. As such, they are emotions, needs, and desires that serve to stimulate individual action. They serve to energize the individual and make him active, to direct the variable and persistent activity of the individual, and to define the probable consequences (rewards) of an individual's responses.

Man's unique reasoning abilities cause him to be a creature of want. As soon as one of his needs is satisfied, another need appears in its place. Man's continued persistence to strive upward is a universal human tendency that is regulated to some extent by the

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[27]Theodorson and Theodorson, Op. Cit., pp. 352-353.

intensity of his needs. Motives are states of tension within individuals which arouse, maintain, and direct their behavior toward the satisfaction of specific needs and the attainment of particular goals. Although motives may stem from "unconscious" sources not recognized by the individuals themselves, there is awareness of the goals which are sought. They involve recognition of situations or states, whether external or internal, that are perceived as requiring modification or achievement.

Motivation is a general term used to refer to any arousal of an individual to goal-directed behavior. The management of planned behavioral change toward societally-preferred goals requires a thorough understanding of several essential aspects of motivation:[28]

1. All individuals have a reservoir of potential energy.

2. In adults, the flow of this potential energy is channeled and regulated through a number of basic motives or needs, that can be thought of as valves or outlets.

3. Within a given culture individuals are likely to have the same set of motives, but they differ in degree of relative strength.

4. Whether or not a motive is "actualized," depends on the specific situation in which an individual finds himself.

5. Certain characteristics of a situation arouse or trigger different motives, opening different valves or energy outlets.

6. Arousal of each motive leads to a different pattern of behavior.

7. By changing the nature of the situational characteristics of stimuli one can influence the actualization of motives

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[28]These principles are based on Atkinson's (1964) model of motivation and represent a condensation of Litwin and Stringer's (1968) summary. George H. Litwin and Robert A. Stringer, Jr., Motivational and Organizational Climate (Boston: Harvard University Press, 1968).

and thereby influence the patterns of behavior.

In other words, the behavior of individuals is in part dependent on:

(a) the relative strength or readiness of his various motives; and

(b) the situational characteristics and the opportunities presented.

"The characteristics or stimuli presented by the situation determine, in large part, which motives will be aroused and what kind of behavior will be generated."[29]

Three basic motivational strains have been detected among members of complex, formal organizations--achievement motivation, power motivation, and affiliation motivation. That is, in most individuals (in varying degrees of strength) we find the need to achieve, the need for power, and the need for affiliation. Herzberg pointed out that job satisfaction can be attained only through factors that are intrinsically related to the job. These include: (a) achievement; (b) recognition for achievement; (c) the work itself; (d) responsibility; and (e) growth or advancement. Job dissatisfaction can be prevented through factors extrinsic to the job; such as, salary, status, interpersonal relationships, working conditions, etc. While preventing job dissatisfaction with factors such as those outlined above, managers need to carefully apply those motivating forces that will lead participants to job satisfaction and goal attainment.[30]

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[29] Ibid., p. 11.

[30] Frederick Herzberg, "One More Time: How Do You Motivate Employees," Harvard Business Review (1968), 46: 53-62.

## Conceptions

Conceptions are highly individualistic processes and powers of conceiving mentally; that is, formulating ideas, mental impressions, images, and other universals which can be utilized by an individual as vehicles of thought. As a process, conception focuses on the formation of ideas, abstractions, or symbols and the development of understanding relative to such universals.

Stout defines conception in terms of the apprehension of universals. He states that conception is "cognition of a universal as distinguished from the particulars which it unifies. The universal apprehended in this way is called a concept."[31] He emphasized that:

> The words "as distinguished from" are of essential importance. The mere presence of a universal element in cognition does not constitute a concept. Otherwise all cognition would be conceptual. The simplest perception includes a universal. In perceiving the colour red I recognize it as the same in various moments of its appearance. In order to conceive red, I must do more than this; I must draw a distinction between its general nature and its particular appearances. The universal must be apprehended in antithesis to the particulars which it unifies. This is a process which probably cannot take place except in a very rudimentary form without the aid of language.[32]

The foregoing elaboration on a definition of conception emphasizes that to conceive an object one must draw a distinction between its general nature (i.e., its primary properties) and its particular appearances (i.e., its secondary properties). This is precisely the

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[31] G. F. Stout, "Conception" in J. Mark Baldwin (ed.), Dictionary of Philosophy and Psychology (Gloucester, Mass.: Peter Smith, 1960), pp. 207-208.

[32] Ibid.

problem that Hartman says that an individual must be able to solve in the measurement of values.[33] He explains that:

> In value measurement, what is to be measured is . . . the ordinary sense object--and this object not only as possessing its secondary properties, but rather this very possession as what measures its value. Hence for value measurement the secondary properties must be used as primary properties. The question thus was to find the standard which is to the secondary properties as primary standards--of length, weight, etc.--are to primary properties. What, in other words, is it that contains the secondary properties as, say, the meter contains the centimeter? The answer is: the definition of a concept. The concept serves as the standard for value measurement: a thing has value in the degree that it fulfills the definition of its concept. . . . Value measurement, in a word, is measurement of conceptual qualities.[34]

What is critically important to planned societal change is not merely the measurement of value but the construction of new concepts and the formulation of mutually-satisfactory definitions for them. For as Theodorson and Theodorson state:

> A concept is a word or set of words that express a general idea concerning the nature of something or the relations between things, often providing a category for the classification of phenomena. Concepts provide a means of ordering the vast diversity of empirical phenomena, are essential in the process of generalizing, and form the basis of language. However, concepts are not inherent in nature itself, waiting to be discovered, as it were. Concepts, including scientific concepts, are mental constructs reflecting a certain point of view and focusing upon certain aspects of phenomena while ignoring others. Therefore, the concepts a person uses have an important effect upon his perceptions of reality.[35]

To be effective in social interaction and planned societal change,

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[33]Robert S. Hartman, "The Science of Value" in Abraham H. Maslow (ed.) New Knowledge in Human Values (Chicago: Henry Regnery Company, 1959), p. 22

[34]Ibid.

[35]Theodorson and Theodorson, Op. Cit., p. 68.

each individual must be able to establish meaningful relations between the results of his internalized, non-verbal contemplations or happenings at a silent level with the results of his language thinking or happenings at a verbal level. Korzybski studied this aspect of human behavior and discussed the search by individuals for language structure to fit the structure developed on the silent level. Relative to the relations between verbal and silent levels, he stated that:

> If we "think" verbally, we act as biased observers and project onto the silent levels the structure of the language we use, and so remain in our rut of old orientations, making keen, unbiased, observations and creative work well-nigh impossible. In contrast, when we "think" without words, or in pictures (which involve structure and therefore relations), we may discover new aspects and relations on silent levels, and so may produce important theoretical results in the general search for a similarity of structure between the two levels, silent and verbal. Practically all important advances are made that way.
>
> So far the only possible link between the two levels is found in terms of relations, which apply equally to both non-verbal and verbal levels, such as "order" (serial, linear, cyclic, spiral, etc.), "between-ness," "space-time," "equality" or "inequality," "before," "after," "more than," "less than" etc. Relations, as factors of structure, give the sole content of all human knowledge.[36]

The effectiveness of planned societal change, policy formulation, and policy implementation depend upon human capacities and capabilities for conceptualizing relations as factors of essential structure upon which alternative future societal histories can be constructed. The foregoing statements imply that individuals must learn to connect their mental images with concepts, connect these concepts with language symbols, and connect language symbols with their mental images. This

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[36]Alfred Korzybski, "What I Believe" in Manhood of Humanity (Lakeville, Connecticut: The International Non-Aristotelian Library Publishing Company, 1950), p. xlix.

cycle of activities and relations or closed loop process of conception must be made to exhibit reciprocity among its activities and relations in an effort to enhance man's planned change capacities and capabilities.

## Needs

Needs are constitutional or acquired cravings or wants that may originate from internal, external, or a mixture of internal and external forces. They may take the form of physiological, psychological, or sociological requirements for something essential or desirable that is lacking. They may be appeased by recurrent satisfactions and are extremely painful or depressing if they are not satisfied. Needs often act as subconscious motives that influence an individual's actions without taking form as conscious ends.

Maslow has developed a hierarchy of basic human needs which create internal forces for individual action and change.[37] Beginning at the lowest point in his hierarchy, he presented the following upward emerging levels:

1. The Physiological Needs--human survival needs for nuture, sensitivity, mobility, reproduction, etc.

2. The Safety Needs--human needs for personal safety, protection against natural forces, danger, threat, deprivation, etc.

3. The Belongingness and Love Needs--human social needs for belonging, association, acceptance, friendship, love, etc.

4. The Esteem Needs--human egoistic needs for self-esteem,

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[37]Abraham H. Maslow, Motivation and Personality (New York: Harper and Row, Publishers, 1970), pp. 35-58.

self-respect, self-confidence, autonomy, achievement, competence, knowledge, etc., and relational needs for status, recognition, appreciation, respect, etc.

5. The Need for Self-Actualization--human needs for self-fulfillment, self-realization, self-development, actualization of potentialities, creativity, unselfish creative love, etc.[38]

One can also think of needs in terms of external situational forces which are generated by societal circumstances in contexts marked by rapid change. Society is experiencing the effects of human population and knowledge explosions. Technological and sociological revolutions are creating change forces that are reshaping society and its physical and cultural environment. The forces generated by these explosions and revolutions dictate individual requirements for change. A need, in the sense of societal change forces, is the discrepancy between "what is" and "what is required" in goal-directed achievement to reduce the effects of external stress and, concurrently, to insure the continued effectiveness of the individual in a society that is enmeshed in a changing world environment.

Cantril reported several demands which people everywhere impose on their respective societies. The following needs must be accommodated:

1. The satisfaction of survival needs.
2. Man needs a sense of both physical and psychological security to protect gains already made and to assure a beachhead from which further advances may be staged.
3. Man craves sufficient order and certainty in his life to enable him to judge with fair accuracy what will or will not occur if he does or does not act in certain ways.
4. Human beings continuously seek to enlarge and to enrich the quality of their satisfactions.
5. Human beings are creatures of hope and are not genetically

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[38] Ibid.

designed to resign themselves.

6. Human beings have the capacity to make choices and desire to exercise this capacity.
7. Human beings require freedom to exercise the choices they are capable of making.
8. Human beings want to experience their own identity and integrity, more popularly referred to as the need for personal dignity.
9. People want to experience a sense of their own worthwhileness.
10. Human beings seek some value or system of beliefs to which they can commit themselves.
11. Human beings want a sense of surety and confidence that the society of which they are a part holds out a fair degree of hope that their aspirations will be fulfilled.[39]

## Aspirations

Aspirations are strong desires to achieve higher-level value satisfactions. Such desires serve as motivational sources which cause individuals to strive continuously to extend the range and heighten the quality of value satisfactions and to insure the replication of desired value satisfactions already experienced. They explain an individual's striving to attain higher status positions in society and his seeking of new roles. Differential aspiration is the phenomenon of different societal segments making unequal attempts to rise to higher level statuses.

Aspirations have their basis in human needs that are so elaborated, modified, and augmented by cultural, societal, and environmental processes and forces that the goals pursued bear little relation, overtly, to the need determinants. In practical human affairs, an individual's behavior is determined by what he thinks or feels he

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[39] Hadley Cantril, Op. Cit., pp. 315-322.

wants. This in spite of the importance of the satisfaction of a particular want for his personal survival.

An individual's aspirations are influenced by his personal history and his perceptions of both the retrospective and prospective aspects of his potentialities. Aspirations were made the denominator in the following equation for satisfaction reported by Zalesnik and Moment:[40]

$$\text{Satisfactions} = (f)\ \frac{\text{Rewards}}{\text{Aspirations}}$$

An individual learns what to desire and what to want. He has to learn to channel his behavior and his intentions. He sets levels of aspiration by setting his sights on levels of achievement that are influenced by and associated with the increasing attractiveness of rewards on one hand and the increasing fear of failure on the other. In this regard, man's aspirations frequently outstrip his performance capabilities. Given relatively modest goal-directed progress, he is soon conceptualizing new heights that he can conquer and developing new aspirations relative to their accomplishments.

The most difficult task of each individual is that of causing his aspirations to satisfactorily accommodate his perceptions of opportunity and reality. This is often very difficult because goals and aspirations expand and contract with what the individual perceives as possible. For as Kuhn states:

> Not only do our actions adapt to the world around us, but so do our wants. Our goals and aspirations expand or contract in proportion as we are successful

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[40] Zaleznik and Moment, Op. Cit., p. 395.

or unsuccessful in satisfying our prior goals.[41]

Rapid scientific and technological progress has created a revolution of extraordinary scope. It has produced a radical alternation in what the human imagination is prepared to envisage and demand and in the basic dimensions for the measurement of success and failure. In short, modern society has established new aspirations and has imposed new and more exciting demands on itself and its leadership. It has established new visions of promising future histories and has created convictions and hopes relative to their attainment. The problem for man is how to achieve the promise of his convictions without experiencing the disillusionment of his hopes and aspirations.

## Goals

Goals are intended ends and/or end states of action and change. Statements of goals characterize related values, concepts, motives, aspirations, and expectations. They specify needed and desired outcomes which have relevance for the individuals and societal units who wish to attain them. They define intentions relative to the attainment of specified results, products, ends, end states, and/or benefits.

A goal is a target for change that is sought through collective action. A group goal may be an explicitly-stated reason for the existence of the group or it may be quite different from the group's officially-defined purpose. A goal is a universal, continuing purpose

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[41] Alfred Kuhn, The Study of Society: A Unified Approach (Homewood, Illinois: Richard D. Irwin, Inc., and the Dorsey Press, Inc., 1963), p. 135.

that provides a sense of direction through time and space. It is general to a particular area of human endeavor and the range of individual, group, and organizational actions that are to be performed and the outputs to be accomplished. Usually, the uncertainties, risks, and difficulties associated with its attainment cannot be specified beyond the description of probabilities, issues, and expected problems. A goal is suggestive of a range or set of corresponding alternative objectives.

## Expectations

Expectations are beliefs that future experiences will occur and that the consequences of those experiences will be of a definite sort based upon available evidence and past experiences. In cases of societal expectations, the membership attaches relatively high degrees of confidence and certainty to the probability that needed and desired outcomes will be achieved and that anticipated events will occur. In group situations, expectations may serve as normative standards, determine the structure of the group in specific situations, and influence individual and group perceptions of roles and acceptable behavior.

An individual is influenced by the status positions and role opportunities afforded him by other members of society and his perceptions of those status positions and role opportunities. Attached to these statuses and roles are group aspirations, or strong desires, for the attainment of particular goals. The values held collectively by the group determine the goals, either directly or indirectly, and thereby positively sanction behavior toward their attainment. The presence of these sanctions or rewards, together

with perceptions of their effects, influences the direction of an individual's course of action.

Motives and motivation vary with situations and also vary in intensity with changing perceptions of rewards and expectations. Bunker expressed the relation between aspiration, motivation, and values very clearly. Strength of a particular motive, he said, tends to be stable over a long time span, but the readiness to act in a particular way with respect to that motive varies with the situation. "A motive is aroused and becomes operative only when a person's cognitive field includes an expectancy that the performance of some act will lead to the attainment of the goal of the motive."[42]

The strength of a tendency to act in a particular way at any given point-in-time is a function of the stable strength of relevant motives, the strength of the expectancy that the act will achieve the desired results (success), and the magnitude of the anticipated value-oriented incentive. Bunker illustrated this using the following formula:[43]

| Motive Strength | X | Expectancy of Goal Attainment | X | Magnitude of Incentive | = | Effective Motivation to Behave |
|---|---|---|---|---|---|---|

## Commitments

Commitments are an individual's feelings of obligation to execute

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[42] Douglas R. Bunker, "Human Inputs" in John A. Seiler, System Analysis in Organizational Behavior (Homewood, Illinois: Richard D. Irwin, Inc., and the Dorsey Press, Inc., 1967), p. 62

[43] Ibid., p. 63.

a particular course of action, attain a particular goal, and experience a preferred set of consequences. As a result of such feelings, an individual's freedom of choice and range of satisfactory alternatives for action and change are limited. The act of freely making a commitment for which one assumes responsibility individuates the decision maker. By his willingness and readiness to accept these responsibilities, an individual sets himself in opposition to those who refuse to act individually and, in so doing, separates himself from those who seek the safer position of group action. Volition, commitment, and responsibility are fused in the process of individual decision making or the selection of preferred courses of action toward desired goals. The commitments of an individual influence the nature and quality of the participation he exhibits in goal-directed achievement.

## Volitions

Volitions are the exercisings of the will with respect to the adoption of a conscious goal and action alternatives through self-controlled mental efforts. They can be regarded as the settlements of vacillation or deliberation by making a decision relative to a particular issue. The products of volition can be regarded as consciously-decided end states and action alternatives for planned change that are produced through conative organization. Since the conative aspect of an individual's personality is that which is characterized by purposive behavior and the impulse to act, conative organization relates to will-exercising processes which result in the adoption of goals and alternatives for action and change.

The adoption process is an individual decision-making process consisting of such stages as: (1) awareness; (2) interest; (3) evaluation; (4) trial; and (5) adoption.[44] Cantril discovered another set of stages in his work with developing countries. He suggested that societies pass through developmental phases such as:

1. Acquiescence to circumstances.
2. Awakening to potentialities.
3. Awareness of means to realize goals: sensing the possibility that new potentialities perceived can become real.
4. Assurance and self-reliance: experiencing intended consequences through action.
5. Satisfaction and gratification: general satisfaction with a way of life achieved which promises continued development.[45]

Realizing that individuals possess the capability to simulate items 4 and 5 in the foregoing lists, the research-based conclusions of both Rogers and Cantril can be integrated for a better understanding of a possible strategy for conative organization. Their work would indicate that volitions are influenced by most of the parameters suggested in Figure 1.

## Policies

Policies are preferred courses of action and change that are selected from among alternative choices, in light of probable alternative future histories and consequences, to guide and influence present and future decisions. Policies serve as guides for thinking and acting in

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[44]Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), p. 17.

[45]Hadley Cantril, Op. Cit., pp. 301-314.

specific situations. As statements of goal-directed intent, they are explicitly-defined to guide others in decision making without being so specific as to impose decisions. In organizations, policies constitute one type of strategic plans and, as such, they are generalizations or abstractions regarding present and future behavioral expectations. In this regard, Katz and Kahn state that:

> Organizational policies are abstractions or generalizations about organizational behavior, at a level which involves the structure of the organization. . . . As abstractions about organizational behavior, policy statements may be either prospective or retrospective. If the latter, we are dealing merely with the process of recognition; the pattern was there but was not previously stated or formally acknowledged. . . . prospective generalizations about what organizational behavior shall be. . . . comprise a category of decisions: those decisions within an organization which affect the structure of the organization.[46]

The structure of social organizations consists of relations, actions, and events that can be defined relative to the expenditure of purposive, collective effort by individuals toward the achievement of preferred goals. Policies are generalizations or abstractions (plans) which can be used to organize and coordinate the planned expenditures of effort toward desired targets for change.

## Alternative Choices and Probable Consequences

Relative to the selection of a course of action and change for the attainment of a particular goal, many alternative choices can be defined, each of which bears time-phased implications or probable consequences for the organization. The problem for management is the

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[46]Katz and Kahn, Op. Cit., p. 259.

specific determination of a range of satisfactory alternative choices together with a description of the predicted probable consequences of each alternative for the organization.

Each alternative policy choice is considered as a mission for goal attainment. The goal is subset into an integrated and time-phased set of subordinate mission objectives. Each objective is analyzed and transformed into a verifiable performance objective by specifically defining its outcome, requirements, criterion, and rationale components. Thereafter, it is used as an object for mission-level, function-level, and task-level analysis. Upon completion of these analyses, conducted at each level of performance, a methods-means analysis is performed to define a range of methods-means as well as action alternatives. The result of such analyses is several alternative plans for goal attainment together with descriptions of specific action and methods-means alternatives.

Probable consequences are the probable cost and value implications of a policy choice for the organization. Such consequences must be studied carefully to determine their short, intermediate, and long-range implications. Costs are regarded as factors which will produce a negative impact on the decision event while values are considered as those factors which will produce a positive impact. Costs and values may be specified in either qualitative or quantitative terms depending upon the variety and quality of available information. Among the rationalities which should be appraised in the quest for consequence information are: (1) political; (2) legal; (3) social; (4) economic; (5) technical; and (6) moral and ethical. Each rationality can be appraised relative to specific groups of "interesteds" who will be

affected by or must be involved in making the policy selection. The policy formulation and policy implementation parameters specified in Figure 1 can be used as a primary referent in the construction of information gathering and retrieval instruments.

## Policy-Formulation and Policy-Implementation Parameters in a System Planning and Management Perspective of Policy Making

The parameters presented in this section will be defined in a limited manner because they will be elaborated on in Chapters IV, V, and VI. In this section, discussion of policy-formulation and policy-implementation parameters will begin where the previous section ended. The parameters to be discussed are presented in Figure 3. Since policies, alternative choices, and probable consequences were discussed in the previous section, discussion will begin with a definition of requirements.

### Requirements

Requirements are requisite conditions that are predicated by the nature of things or circumstances. Such conditions must be met, managed, maintained, reconciled, negotiated, or compensated in goal-directed performance. Three classes or requirements are specified in system planning and management; namely, limits, constraints, and specifications. Limits are regarded as boundaries and/or boundary conditions which act in terminating, circumscribing, or confining goal-directed progress. Constraints are forces which are operative

POLICY-FORMULATION AND POLICY-IMPLEMENTATION PARAMETERS
IN A SYSTEM PLANNING AND MANAGEMENT PERSPECTIVE OF POLICY-MAKING

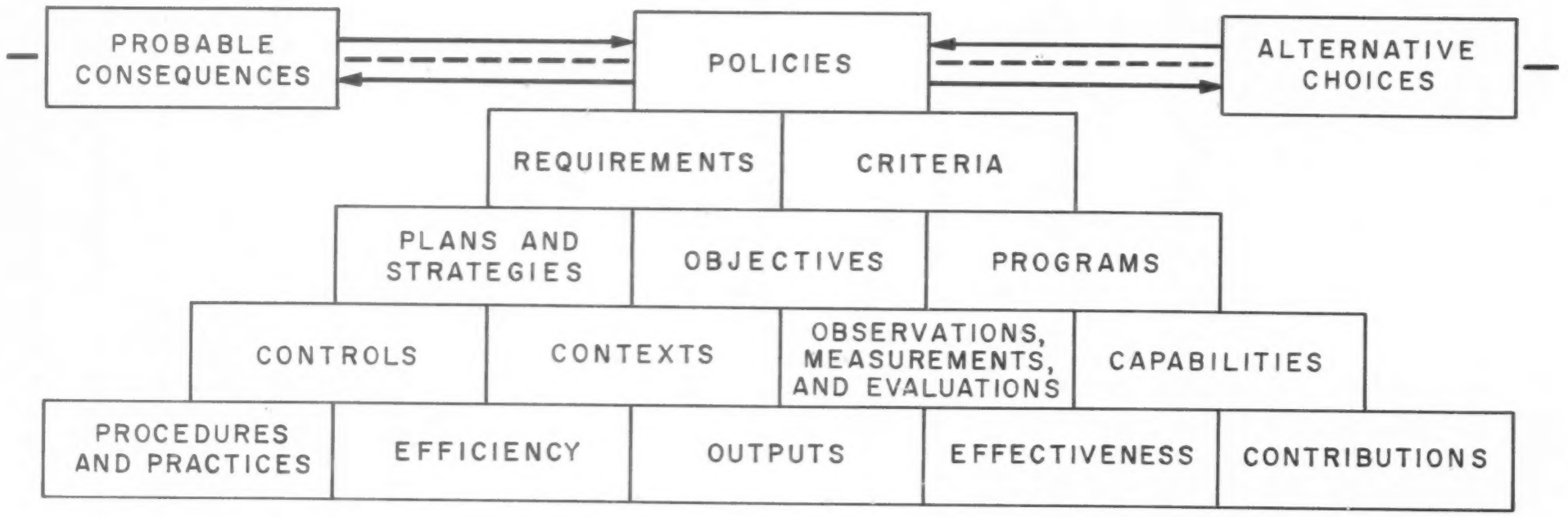


Figure 3



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in affecting, directly or indirectly, the rate, direction, degree, quality, type, and nature of the goal-directed effort that is expended in achievement. Finally, specifications are precise, verifiable statements which can be used to explicitly define the nature and quality of relevant parameters in achievement. Requirements can be defined relative to needed and desired changes, purposes, achievements, outputs, inputs, programs, levels of organization, and other factors of organizational performance.

## Criteria

Criteria are standards on which judgments or decisions are based. They are rules, principles, or tests which can be used to judge the adequacy of achievement parameters. They serve as references in determining the relative worth of program and output variables in relation to purposes and accepted values. In system planning and management, criteria are defined relative to each critical achievement specification. These matched sets of specifications and criteria are used as a basis for quality control in goal-directed efforts.

Criteria may be absolute or relative. Regardless of type, criteria should be valid, relevant, feasible, acceptable, and reliable standards of measurement. Finding the most satisfactory and appropriate measurements to use in securing the variety and quality of information required for policy decision making is not an easy task. Criteria are diagnostic, prognostic, and prescriptive measures of achievement that are essential for the efficient and effective management of planned change.

## Programs

Programs are organizational vehicles for the management of planned change. They are objective-oriented groupings of interrelated and interdependent inputs (i.e., energy, information, and resources), activities, events, and relations. These components are organized and integrated (programmed) toward the achievement of prespecified goals and objectives. Organizational programs may be classified as improvement and renewal, regulation, production, support, or maintenance programs. All programs can be regarded as major, mission-oriented endeavors that are developed, installed, and operated to effect needed and desired change.

## Objectives

Objectives are targets for action and change having definite temporal limits and definable achievement parameters. They may be general or specific but in either instance the input, performance, and output requirements for their achievement can be specified with some degree of certainty. When objectives are constructed to be verifiable and replicable, they possess explicitly-defined outcome, rationale, requirements, and criterion components that are specified using terms which enable demonstrated achievements to be observed, measured, and/or evaluated. The achievement of an objective advances the individual, group, and/or organization toward a corresponding goal.

## Plans and Strategies

Plans are explicit statements or maps of specific action and change commitments. They are products of the human mental processes of planning. In formal organization settings, they are tangible evidence of legislative, executive, managerial, and operational thinking relative to the achievement of desired purposes. Plans are developed as possible satisfactory alternatives which can be executed to achieve particular purposes and fulfill specific requirements in terms of defined criteria. Realizing that plans are not the courses of action and change being planned, they must be appraised and revised continuously during their development in an effort to tailor them to the dimensions of the "real world" in which they are to be executed. Concessions, compromises, adjustments, and adaptations generally are required before plans can be successfully executed or be made operable and manageable in practical situations.

Strategies are integrated sets of management plans that are designed, developed, implemented, and used to: (1) insure that plans are executed in a timely and efficient manner; (2) make planned action and change commitments operable and manageable in practical situations; (3) assure the quality and effectiveness of demonstrated performance and related outputs; (4) serve as a dynamic framework for the development of controls, procedures, and operational practices; (5) attain the purposes of planned change; and (6) manage the conflict and resolve the crises that are inherent in planned change processes. Strategies are frameworks for action and change which can be made sensitive and responsive to human organization interaction-influence, involvement, accountability, and

capability development processes. Effective strategies reduce the frequency by which the organization is surprised by unanticipated events.

## Controls

Controls are planned change regulatory instruments and procedures that are designed and developed relative to prespecified objectives using relevant specifications and criteria. They are implemented and used to assure: (1) the quality and effectiveness of performance and outputs; (2) the efficiency of input-output transformation processes; and (3) the efficacy of management and conservation practices used in the allocation and utilization of available inputs. Controls serve as management aids in such activities as: (1) establishing specifications and effectiveness measures for desired levels of proficiency and expectancy in goal-directed achievement; (2) appraising the nature and quality of outputs and demonstrated performance in terms of defined purposes and requirements using prespecified criteria; (3) developing procedures and practices for input-output transformation processes; (4) executing action in a timely and efficient manner; (5) directing and coordinating actions toward the achievement of prespecified purposes according to plans and strategies; (6) organizing, supervising, and monitoring the actions of performance units; (7) comparing demonstrated achievements with plans, requirements, and criteria; (8) estimating and reporting variances in performance, outputs, and achievements; (9) finding the probable causes of variance and resolving variance problems; (10) adjusting or revising plans, strategies, and

control instruments and procedures; (11) revising operational procedures and practices through corrective action; and (12) appraising, clarifying, and refining statements of purpose and policy.

## Contexts

Organizations and their respective programs can be defined to exist in specific change contexts that are portions of larger systems and environments. In society, change contexts are multi-dimensional units of human organization and activity that are selected as objects for analysis, synthesis, and evaluation. They have definite spatio-temporal distributions and boundaries. The nature and qualities of specific change contexts will vary in accord with changes in their respective internal and external relations, actions, patterns, and structures.

A specific change context can be studied and described in terms of its unique components (structures), its internal relations and dependencies (patterns), and its characteristic goal-directed functions or activities (actions). A context is a verifiable unit of change that may encompass a specific portion of a system (systemic context), or a portion of an environment (environmental context), or adjacent, related portions of a particular system and its environment (systemic-environmental context). Any context can be defined and treated as a system for purposes of analysis, synthesis, and evaluation. It is a change field or area of concern (usually need and/or problem related) that is designated in relation to a particular set of variables and/or phenomena to be investigated. It can be described and verified in

terms of its inherent situations, conditions, and characteristics.

## Observations, Measurements, and Evaluations

Observations are acts of noting and recording facts and events that relate to planned change in dynamic organizations. Measurements are the results secured when specific attributes of organizational planned change or its effects are analyzed and evaluated using appropriate appraisal instruments and procedures. Evaluations are specific determinations of the value of objects, actions, and/or relations in an attempt to make informed judgments based on available evidence. Observations, measurements, and evaluations are made in an effort to secure the variety and quality of information needed to make informed legislative, executive, managerial, and operational decisions.

In educational organizations, the foregoing processes are incorporated into what is referred to as evaluation programs. Sorenson has stated that assumptions of the following sort should be made to influence the design and development of such programs:

1. Educational institutions should serve the needs of society and of the individuals who comprise it; these needs are complementary and interdependent.
2. A society's needs can best be defined by the members of that society through discussion, persuasion, and, ultimately, through voting. To insure that the goals of education will correspond with the citizens' views of their needs, the goals should be defined in a process of interaction between professionals and representatives of the society.
3. Every society changes; its needs and values are in a constant state of flux. . . . Concomitantly as our needs and values change, we must expect our educational goals to change.
4. Even though many of our values seem to be changing, we continue to prize diversity. Ours is a pluralistic society with different religions, political viewpoints,

subcultures, and values. . . . To accommodate such a diverse population, we must expect our educational goals and practices to be varied.

5. The goals of our educational institutions are not and never have been limited to purely academic objectives. Most people want the schools to do more than to teach the traditional academic subjects: they want individual and societal objectives included.
6. We can tell if an educational program or teaching method is working only by observing whether hoped-for changes are occurring in the students--while at the same time making certain that damaging changes are not occurring . . . We cannot properly evaluate an instructor or a program without assessing effects, wanted and unwanted, on students. To evaluate a schedule of events within a school, or a series of teacher activities, or any array of teacher characteristics while neglecting the product is to examine intentions without considering consequences.
7. Educational goals must be stated in descriptive rather than in interpretive language. . . . we must develop objectives defined in terms of changes in pupils' behavior or in the products of student behaviors. . . . We must be prepared to defend each behavioral goal in terms of value assumptions and to answer the question why one particular behavioral goal is better than another. . . . the proper way to evaluate both the educational process and the structure of the schools is to find out whether they are in fact producing the hoped-for product.[47]

These assumptions and other relevant information regarding the design of evaluation programs suggest that major activities of the following sort should be included in comprehensive evaluation programs for public education:

1. Securing direct and indirect involvement of members of the total school community as participants in the evaluation of educational program inputs, outputs, and performance.

2. Deriving, specifying, and negotiating statements of verifiable performance objectives which can be used to evaluate both performance processes and products. The objectives specified would include organizational, as well as, educational objectives.

3. Synthesizing an integrated, time-phased hierarchy of educational goals and objectives which can be used as a design format for

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[47]Garth Sorenson, "A New Role in Education: The Evaluator," Evaluation Comment (January, 1968), Vol. 1. No. 1 (published by the Center for the Study of Evaluation at UCLA).

the evaluation program and as a strategy for its operation and management.

4. Developing a comprehensive plan of evaluation designed to measure both the qualitative and quantitative factors of performance and its outputs. The following steps should be included:

   a. Define the output, input, input-output transformation process, and management variables to be evaluated.

   b. Define the qualitative and quantitative performance and output factors to be measured.

   c. Appraise relevant control elements, effectiveness indicators, and acceptable evidence of need satisfaction and, then, define relevant specifications and measures of effectiveness.

   d. Create and/or select measurement instruments and procedures.

   e. Develop, install, and operate the evaluation process.

5. Conducting periodic observations and measurements using tests, scales, and other indicies of behavioral change which are considered valid in terms of policy, program, curricular, and/or instructional objectives.

6. Analyzing, synthesizing, and evaluating the data outputs of observation and measurement using appropriate statistical methods.

7. Interpreting data outputs using selected relative and absolute measures of effectiveness. The criteria used should provide collated measures of both performance and output effectiveness in terms of defined specifications.

8. Formulating recommendations that provide a basis for future action, self-correction and revision, policy-formulation and policy-implementation leadership, and judgments of effectiveness.

These eight steps for evaluating educational programs should be regarded as a cyclical process. Each step requires judgmental decisions and participants may be expected to adjust their activities dependent on the amount and kinds of feedback received from the process. A plan of evaluation should be subjected to continuous appraisal and revision. Many errors and inaccuracies should be expected during the course of evaluation and data treatment. The wisdom and judgment of experienced

evaluators is particularly helpful and necessary if meaningful, honest, and realistic conclusions are to be defined based on the data derived from the evaluation process.

## Capabilities

The capability of an organization is its potential and practical ability to attain its purposes through deliberate action. It is sensitively dependent upon the quantity and quality of the individual human beings who are involved in the achievement of organizational purposes. Their unique capacities, capabilities, training, and experiences critically limit organizational capability. One can appraise the achievement capability of an organization relative to a particular objective in terms of: (1) available inputs; (2) improvement and renewal, regulation, production, support, and maintenance programs; (3) legislative, executive, managerial, and operational input-output transformation processes; (4) required performance competencies and proficiencies; and (5) prespecified outputs.

## Contributions

Contributions are the positive goal-directed differences that can be calculated when the total estimated net sum of input and performance costs and values are subtracted from the total estimated net sum of output costs and values. These goal-directed positive differences can be used to determine the relative worth of a performance unit's

contribution to the achievement of organizational and educational objectives. Measurements of contributions are used to determine effective productivity in goal attainment. Use of this concept will be complicated by inabilities to determine adequate costs and values of performance. This will be especially true in determining contributions regarding the effective productivity of an individual's leadership behavior relative to goal attainment. The methods of human asset accounting developed by Rensis Likert and others at the Institute for Social Research should, however, provide an effective means for overcoming perceived difficulties.

## Effectiveness

The effectiveness of an organization and its programs is determined by measuring the degree to which organizational and program outputs fulfill prespecified change requirements and satisfy organizational and individual needs and desires relative to specific purposes. The quantitative and qualitative aspects of value satisfactions are determined using indicators and/or measures of effectiveness to test the adequacy of outputs. Adequate levels of effectiveness enable the organization to establish and maintain advantageously balanced input and output transactions and purposive relations with its environment. Each new set of outputs provokes a fresh supply of inputs from the environment. Effectiveness is achieved through responsive goal-directed expenditures of effort which are managed according to plan toward prespecified objectives to assure that needed and desired outputs will be produced.

## Outputs

Outputs are direct and/or indirect outcomes of goal-directed planned change efforts. They may be ends, end states, products, benefits, services, and/or the effects of such outcomes. Outputs are results which may effect internal, external, and/or a combination of internal and external changes. The qualitative and quantitative aspects of outputs are defined in statements of output requirements. The adequacy of all outputs are determined relative to prespecified purposes using criteria of relevance.

## Efficiency

The efficiency of an organization and its programs is determined by measuring the degree to which input-output transformation processes maximize goal-directed output achievements using available inputs. It is a measure of the effective productivity of input-output transformation processes and procedures. It is oriented to the improvement of planned change procedures and practices. Efficiency measurements are used also to determine the relative worth of transformation alternatives. Thus, the quality and nature of the outputs produced through the use of a particular alternative are determinants of that alternative's contribution to goal attainment. Measurement of the consequences (i.e., costs and values) experienced as a result of the organization's use of a particular alternative through time is an essential aspect of efficiency determination.

## Procedures and Practices

Procedures are integrated networks of activities and events that are implemented and used to effect needed and desired planned change. They are management means for regulating, supporting, and maintaining operational actions that are routinely performed and/or are continuously replicated in achievement. They are established ways for executing particular courses and/or methods-means for achieving specific objectives.

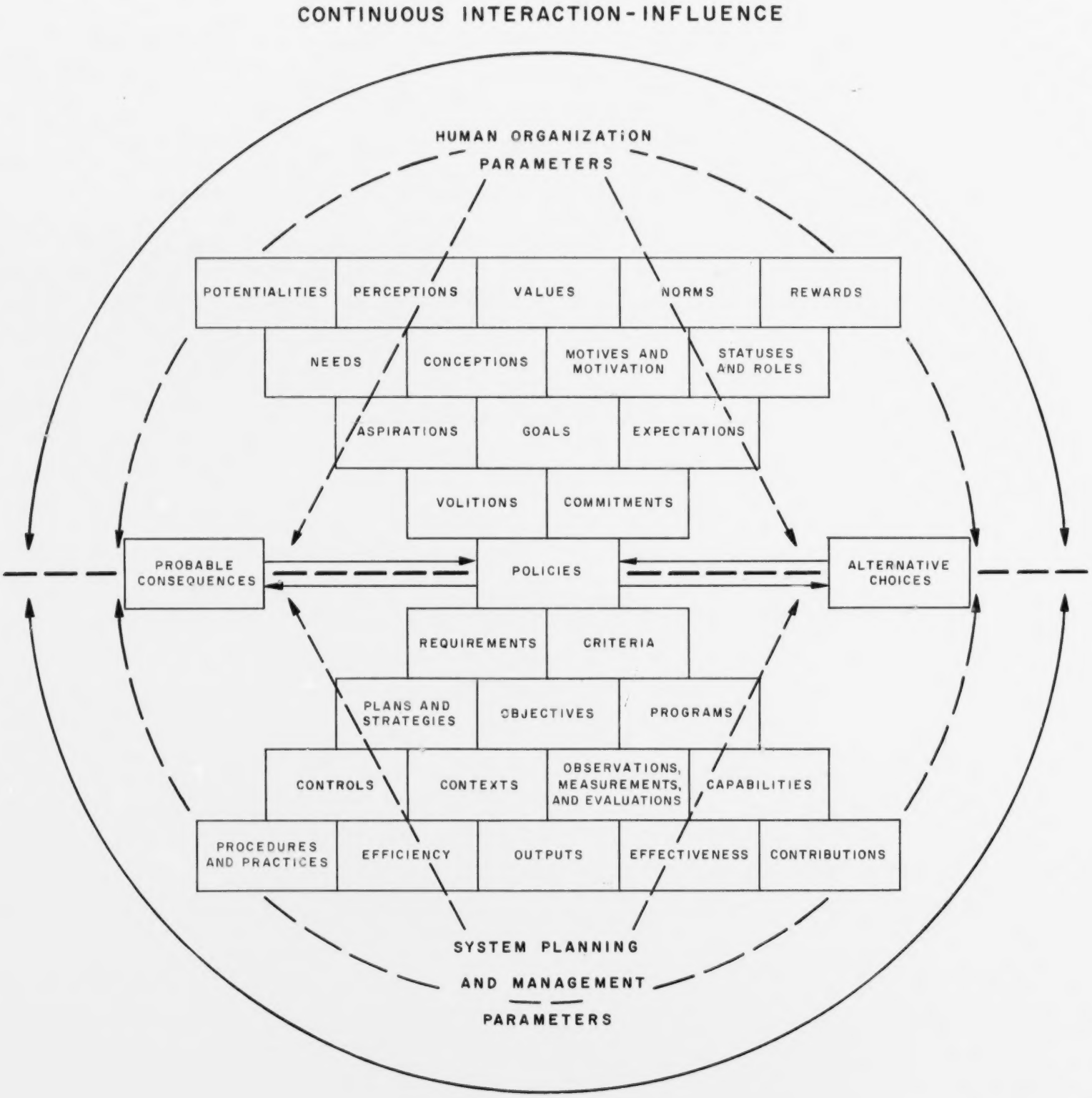
Practices are institutionalized procedures that are routinized or performed on a periodic or cyclic basis. For greatest efficiency and effectiveness in achievement, specific performance competencies and levels of proficiency are required for the execution of procedures and practices. One of the most difficult tasks in planned organizational change is that of securing commitments relative to the obsolescence of institutionalized practices. This in spite of evidence regarding the need for change as determined by the appraisal of established procedures and practices in terms of prespecified purposes and planned change controls.

## A Model of Policy Making Interaction-Influence

A model of policy making interaction-influence (Figure 4) can be used to visualize the impact of human organization and system planning and management parameters on policies. Parameters in each set act individually and in interaction to produce significant policy-making influences. They influence both the number and quality of satisfactory

Figure 4

# A MODEL OF POLICY-MAKING INTERACTION-INFLUENCE



alternative choices considered and the number and range of probable consequences appraised relative to each alternative. In the case of both policy formulation and policy implementation, both sets of parameters exert significant levels of interaction-influence. In policy formulation, human organization parameters play a dominant role; while, in policy implementation, system planning and management parameters are dominant. These two sets of parameters provide a basis for establishing and maintaining balanced perspectives in both the policy formulation and policy implementation process. The efficiency and effectiveness of planned change can be greatly improved if these parameters are carefully considered by those who lead policy formulation and policy implementation processes.

# CHAPTER III

## PUBLIC EDUCATION--A SOCIETAL SYSTEM PERSPECTIVE

Society, in the most general sense, is a collectivity of human beings or populations that constitute an identifiable community of related, interdependent individuals. Change in society depends upon changes in individual behavior and changes in the nature of the relations that exist among its individual members. More specifically, a society is a system of people, relations, roles, norms, and values which is characterized by dynamic exchanges and interactions that are both external and internal in nature. Within a complex society, there is a network of differentiated subsystems in very complex relation to each other. Political, legal, social, economic, and technical subsystems are among the most important and influential societal components which generate forces for change that affect public education.

Systems of public education are made up of formal organizations or societal units to which are delegated functional authority and responsibility for educating new generations in society. Stinchcombe established a purposive and functional role for such organizations in society when he stated that:

> By an "organization" I mean a set of stable social relations deliberately created, with the explicit intention of continuously accomplishing some specific goals or purposes.

> These goals or purposes are generally functions performed for some larger structure.[48]

Because the term "organization" is widely used throughout the remaining sections of this document, its specification and description cannot be left to chance. In the following section of this chapter, a short definition of essential concepts is presented.

## Basic Organizational Concepts[49]

An organization is a social unit or group of people incumbent in a system of roles and responsibilities designed to achieve prespecified purposes (Figure 5). Without defined statements of purpose there is no reason for people to cooperate or for groups to be organized. An organization and each of its components are, therefore, expressions of its defined purposes.

The system of roles and responsibilities designed to achieve prespecified objectives is defined as the regulatory mechanism of an organization. In turn, group structure is defined as the pattern of involvement, participation, and interaction-influence that exists among its members. A member of an organization is an individual incumbent in a role and in specific responsibilities for the management of system actions and change and, therefore, functionally active in

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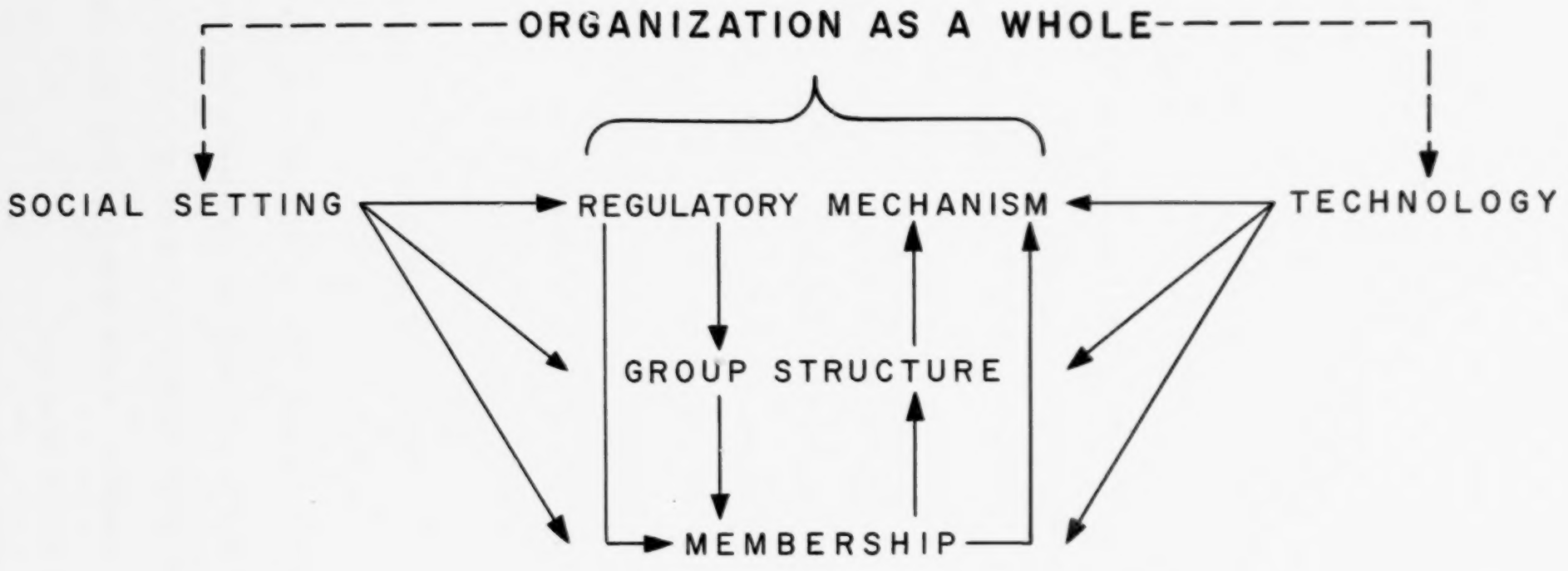
[48]Arthur L. Stinchcombe, "Social Structure and Organizations" in James G. March (ed.) Handbook of Organizations (Chicago: Rand McNally and Company, 1965), p. 142.

[49]This section is adapted from Stanley H. Udy, Jr., "The Comparative Analysis of Organizations" in James G. March (ed.) Handbook of Organizations (Chicago: Rand McNally and Company, 1965), pp. 687-690.

Figure 5

# MODEL OF AN ORGANIZATION OR SOCIAL UNIT



the group structure. The members considered severally are referred to as the membership of an organization.

Every organization is located in some societal setting and is subject to a variety of cultural, societal, and physical influences from its environment. An organization, in turn, influences the society in which it is located, contributes to the body of culture, and seeks to control the detrimental effects of its societal setting and physical environment. Accordingly, an organization can be thought of as existing within a specific social setting and can be conceived of as operating in the context of some adaptive technology.

Social structure reflects the institutionalized behavior of a particular society and its sub-systems. It creates a myriad of societal forces in which organizations must act. When change is effected by one organization, the social structure is changed and a new pattern of relations and forces is created. To understand these dynamic patterns of relations and forces that affect an organization's behavior, one must study the social structure or those relatively stable characteristics of society outside the organization.

## Public Education as a Super-System

The basic purpose for the existence of any society or societal system resides in the need for purposeful and meaningful interaction and interrelation between social units to improve the welfare of individual members. Gross characterizes the significance of the human element in social systems.

The basic element of system structure in any nation is the

> people of the country. They are the basis of the entire social system. Land, minerals, and man-made facilities are "resources" only because the people find them useful. Groups exist only because of the interrelations between individual human beings. Social power is exerted by, with, on, and for people individually, and by people acting together in groups. External relations are relations among people. Social and cultural values are never disembodied. They exist only because people hold them. Thus, all the other five elements of system structure are merely ways of elaborating on certain stable characteristics of, and interrelations among people.[50]

A public education system, like other societal systems, can be characterized by the nature and attributes of its interdependent parts, by the manner in which these parts are related and the characteristic modes of their interactions, by the programs and processes which typify system actions, and by the strategic plans it develops to assure its continued effectiveness in a changing environmental setting.

As a complex subordinate organization in society, a public education system is established and maintained to attain specific societal goals for public education. These goals pose definite implications for both the external relations and the internal structure of the educational system. The system and each of its parts must be dynamic expressions of the purposes for which the whole exists. The value system of a public education system must imply basic acceptance of the more generalized values of society and must have as its most essential feature the evaluative legitimation of the system's place or "role" in society.[51]

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[50]Bertram M. Gross, "The State of the Nation: Social Systems Accounting," in Raymond A. Bauer (ed.) Social Indicators (Cambridge: Mass.: The Massachusetts Institute of Technology Press, 1966), p. 187.

[51]Talcott Parsons, Structure and Process in Modern Societies (New York: The Free Press, 1960), pp. 17-20.

Systems of public education are societal vehicles for planned change and, as such, the results of their goal-directed efforts directly affect other societal systems and social structure. Stinchcombe interprets "social structure" in a very general sense:

> . . . to include groups, institutions, laws, population characteristics, and sets of social relations that form the environment of the organization. That is, I interpret "social structure" to mean any variables which are stable characteristics of society outside the organizations.[52]

Organizations perform essential transactions with other units of society that provide their inputs or utilize their outputs. They also maintain external relations with other organizations or societal units that perform separate but related functions. This network of inter-dependent and interacting organizations constitute an integrated system of society in a particular area of enterprise. Considered nationally, public education in the United States can be regarded as a super-system with major component systems in each of the several states.

Wayland has differentiated four types of societal units that are intricately interrelated within this super-system:

> The first of these types is the formal organization of education, as it is publicly understood. This includes such features as the U.S. Office of Education, the state department of education, local school boards, and local school systems as they might appear on a line-and-staff chart. Private and parochial school systems would also be included here.
>
> The second type is ancillary structures: deliberately and formally organized systems not a part of the formal organization, which contribute to the functioning of the educational system in specific ways. Some of these are highly visible and have relatively well-established linkages to the formal structure (Parent-Teacher Associations, for example); others are more remote (school committees of local mental health organizations, companies engaged in the manufacturing of school buses, etc.).

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[52]Arthur L. Stinchcombe, Ibid.

> The third type of structure is the autonomous group made up of individuals within the educational system. Friendship groups or cliques of this type may be viewed individually, or the linkages between them (within a particular system) may be examined as a network which constitutes an informal organization. This type of structure is less stable than the first two types, since it is partially dependent on the particular persons who are members of a system at any point in time.
>
> The final type, institutions, is made up of those relationships within a system which are functions of prescribed norms. Explicit formulations of appropriate behavior of this type are not necessary, since they have come to be accepted as given in the system. For example, much of the interaction between teachers and students follows prescribed norms which have been learned . . . but which are not covered in formalized rules of conduct. When norms governing institutions are brought into question, explicit rules may be established, and thus a shift occurs from institutions to formal organizations. . . .[53]

As used in this discussion of public education, organizations are types of social units that tend to exhibit increasing "bureaucratic characteristics" with increasing complexity. As an organization becomes more bureaucratic, it exhibits increased "formalization of roles in terms of functional specificity with minimum hold over of older institutional practices."[54] The assignment of responsibilities and the delegation of authority are marked by formal procedures based on rules established by the organization's regulatory mechanism.

A model of an organization or social unit (Figure 5) reveals that it is characterized by dynamic interrelations and interactions of the parts to each other, to the whole itself, and to the social setting and technology. The organization as a whole interacts and interrelates with its environment as a whole. Thus, an organization is characterized

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[53]Sloan R. Wayland, "Structural Features of American Education as Basic Factors in Innovation," in Matthew B. Miles (ed.) Innovation in Education (New York: Bureau of Publications Teachers College, Columbia University, 1964), pp. 587-590.

[54]Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1966), p. 47.

by a network of differentiated internal and external relations and interactions which represent lines of reciprocal communication and interaction-influence.

## Public Education--A Multi-Level, Multi-Organizational Partnership

Major areas of public concern in the United States extend across established boundaries for governmental jurisdiction, authority, and responsibility. For this reason, societal efforts in such areas as public health, education, and welfare must be regarded as multi-level, multi-organizational partnerships. These partnerships feature cooperation and collaboration between and among organizations located at the federal, state, county or intermediate, and local levels of governmental jurisdiction.

Many authorities view this type of partnership as a "new federalism" that has evolved in our Nation. With respect to "new federalism" and the federal system as a partnership, Elazar states:

> . . . We are now embarked on a new age of intergovernmental relations in this country, one which gives the federal government a greater role in domestic affairs than ever before and a particularly strong role in setting national standards to which the states and their local subdivisions must conform. . . . Our federal system has always been characterized by the cooperative interrelationship of federal, state, and local governments. . . . All three levels serve the same people, generally share the goals, and are faced with the same demands. American governments have traditionally assumed responsibilities only in response to public demand but when the demand has arisen, it has invariably been addressed to all governments more or less simultaneously. . . . Consequently it serves little purpose to think of the federal, state, and local governments

separately without considering the way in which they function as parts of a single system.[55]

Considered nationally, each area of public concern is a super-system or multi-level network of interrelated and interacting organizations. The structure of each super-system links organizations at the federal, state, county or intermediate, and local levels of governmental jurisdiction (Figure 6). This form of structure requires intergovernmental collaboration and cooperation. In this regard, Elazar states:

> Intergovernmental cooperation, no matter how patterned or routinized, is not to be confused with governmental centralization. The various levels of government in this country, no matter how much they collaborate with each other, have consistently maintained their own separate integrities within the framework of a common partnership. Indeed, the cooperative system implies the existence of partners with legitimate "personalities" and aspirations. Thus the single system is also a system of systems.[56]

This governmental super-system or system of systems establishes and maintains vital relations in each area of public concern. The goals of the super-system are its primary integrative aspect and, thus, all intersystems relations are functional in the sense that they are established to facilitate goal attainment. Intergovernmental programs are usually developed, installed, and operated as vehicles for goal attainment in each area of public concern. Generally, these programs result from federal or state initiated financial incentive legislation.

Federal action in the public interest must be taken in the absence of decisive action and deliberate efforts by lower levels of governmental

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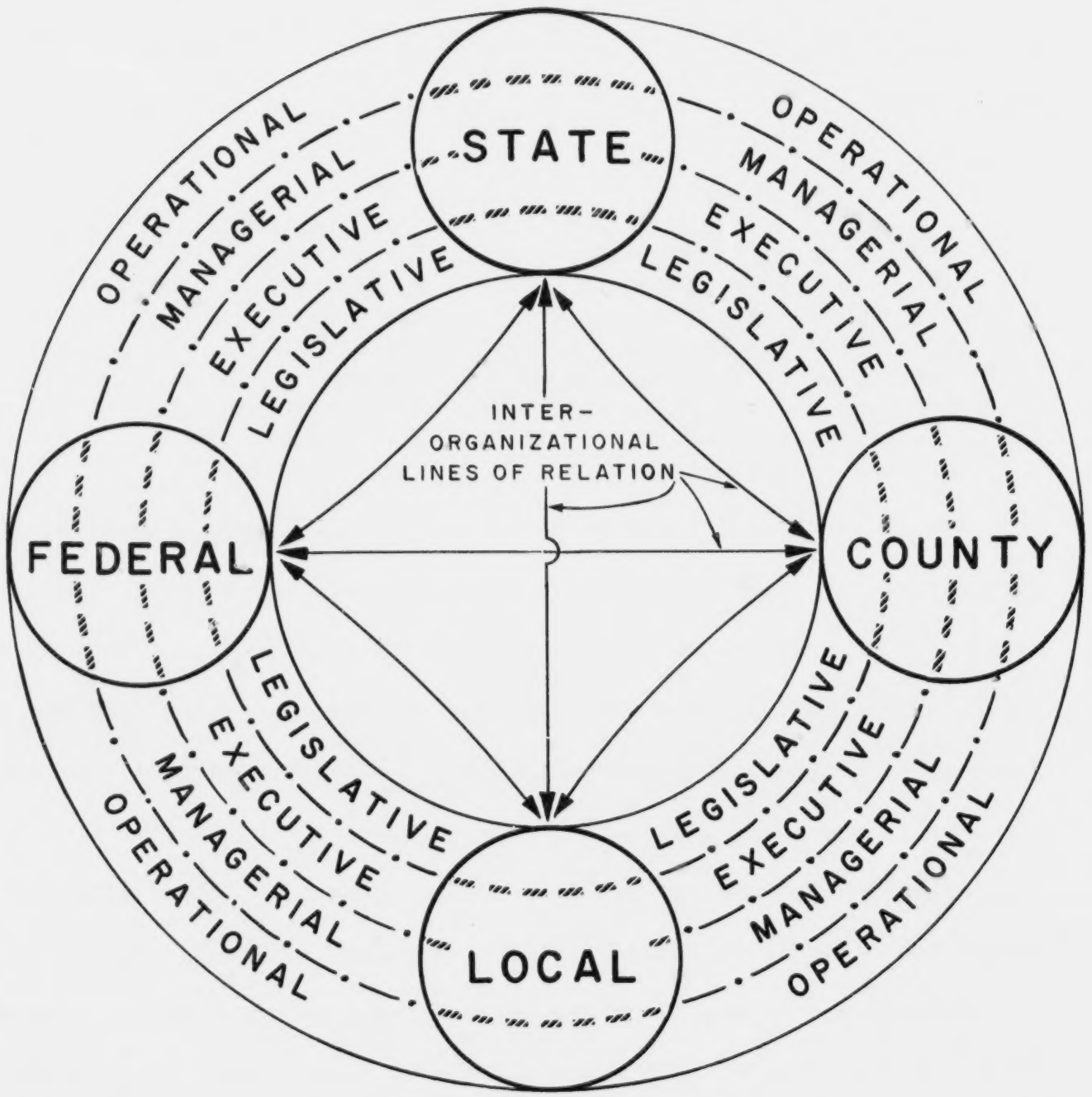
55Daniel J. Elazar, "The American Partnership: The Next Half Generation," in Edgar L. Morphet and Charles O. Ryan (eds.) Prospective Changes in Society by 1980 (New York: Citation Press, 1967), p. 102.

56Ibid.

Figure 6

# MAJOR INTEGRATIVE ASPECTS OF EDUCATIONAL SYSTEMS



jurisdiction to effect required societal change. Many people confuse this form of federal initiative and leadership with increased federal control and centralization of power and authority at the federal level of governmental jurisdiction. With respect to governmental power, authority, and control in the United States, Elazar stresses:

> There is no single center of authority or power in the United States, rather there are many centers: located in the fifty states as well as in Washington by constitutional design, in myriad localities by constitutional tradition, and in non-governmental institutions as well. Thus government in this country is not decentralized by virtue of decisions made in Washington but is non-centralized by the very terms of the constitutional compact which gives the states (and, by extention, their local subdivisions) primary authority as a matter or right.
>
> The existence of noncentralized government has meant that, despite the increase in both the nation and state roles in many programs, domestic activities from education to the war on poverty are subject at all times to maximum local control. The larger governments set standards, provide funds, offer technical assistance, and do many important things to stimulate local activity, but ultimate control over the programs remains, to a great extent, vested in the local community.[57]

In each area of public concern, society establishes purposes, priorities, and policies to regulate or control achievement. The goals set by society constitute the major integrative aspects of each area of public concern and its related super-system. Goals are societal images of desired future states which society is attempting to attain. Once realized, goals become parts of society or its environment and hence cease to be goals. In the area of public education, goals define the purpose of education in society and without purpose there would be no reason for individuals to cooperate or for trying to organize them. Every educational organization and each of its parts are

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[57] Ibid., p. 103.

expressions of societal goals for public education. At every level of governmental jurisdiction and system organization goals and related sets of subordinate objectives serve as communication referents and as guides to achievement.

Organizations at each level of governmental jurisdiction in the educational super-system perform highly differentiated but related legislative, executive, managerial, and operational functions toward the achievement of purposes for which the system exists (Figure 7). Such diversified and separate performance cannot be left to chance but must be managed. For this reason, society establishes and supports or maintains systems of organizations and programs as vehicles for goal attainment.

Regarding the origin of an educational system, James states:

> The whole system develops out of societal demands for services. The system stays healthy as long as it is responsive to those demands. It withers when it fails to be responsive to these demands, and other institutions grow to perform the functions. We have many subsystems that have grown to replace the functions once performed or intended to be performed by the public school.[58]

Educational systems are complexes of formally structured and highly differentiated organizations to which are delegated the societal functions of conserving past learning and transmitting this accumulated wisdom to new generations in society. The system functions in satisfying the acculturalization, socialization, and ecosystemization needs of individuals and, thereby, to prepare them for future roles which can be expressed in terms of verifiable societal benefits, competencies,

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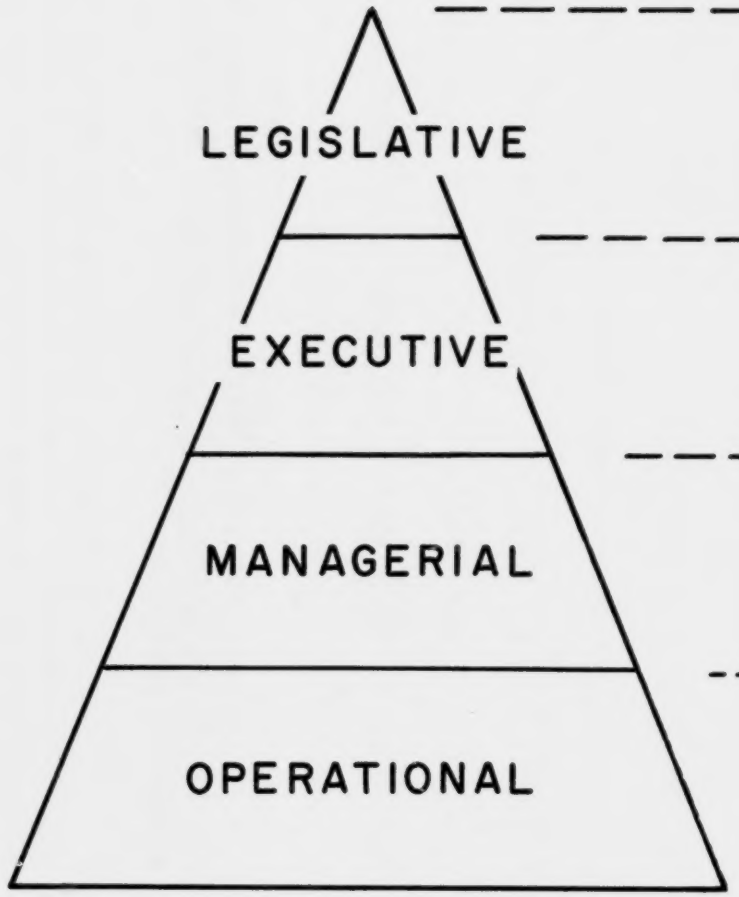
[58]H. Thomas James, "Conclusions and Summary of the Conference," Patterns for the Administrative Curriculum Development and Instructional Improvement (Sacramento: California State Department of Education, 1965), pp. 66-69.

Figure 7

# THE MULTI-LEVEL, MULTI-ORGANIZATIONAL ASPECTS OF AN EDUCATIONAL SUPER-SYSTEM




| | FEDERAL | STATE | COUNTY | LOCAL |
|---|---|---|---|---|
| LEGISLATIVE | CONGRESS | LEGISLATURE AND STATE BOARDS | COUNTY BOARD | LOCAL BOARD |
| EXECUTIVE | SECRETARY OF NEW COMMISSIONER OF EDUCATION | CHIEF STATE SCHOOL OFFICER | COUNTY SUPERINTEN-DENT | DISTRICT SUPERINTEN-DENT |
| MANAGERIAL | U S O E | STATE DEPARTMENT OF EDUCATION | OFFICE OF COUNTY SUPERINTEN-DENT | DISTRICT OFFICES |
| OPERATIONAL | DIVISIONS BUREAUS PROGRAMS | DIVISIONS BUREAUS PROGRAMS | DIVISIONS BUREAUS PROGRAMS | SCHOOLS AND PROGRAMS |

skills, knowledges, and evaluative states to be achieved.

## Planning and Controlling Achievement

An educational system is so complex that the actions of its component organizations and the system as a whole must be regulated. Explicit statements of goals and verifiable performance objectives are used as primary referents in the establishment of an output-oriented planning and control system or regulatory mechanism. When such structures or mechanisms are instituted in systems of organizations, they usually involve strategic planning and policy making, management control, and operational control. The integrated mechanism is "a distribution of means used by an organization to elicit the performances it needs and to check whether the quantities and qualities of such performances are in accord with organizational specifications."[59]

Early books on management theory stressed planning, executing, and controlling as the principal functions of organizational managers. In developing a framework for the analysis of planning and control systems, Anthony stressed three levels of functional activity.[60] He defined these levels as "strategic planning," "management control," and "operational control." In support of these functional activities, he defined "information handling" and "financial accounting."

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[59] Amitai Etzioni, "Organizational Control Structure," in James G. March (ed.), Handbook of Organizations (Chicago: Rand McNally and Company, 1965), p. 650.

[60] Robert H. Anthony, Planning and Control Systems: A Framework for Analysis (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1965), pp. 1-23

Anthony presented the following definitions relative to his conceptualization of a planning and control system analysis framework:

> Strategic planning is the process of deciding on objectives of the organization, on changes in these objectives, on the resources used to attain these objectives, and on the policies that are to govern the acquisition, use, and disposition of these resources.
>
> Management control is the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives.
>
> Operational control is the process of assuring that specific tasks are carried out effectively and efficiently.
>
> Information handling is the process of collecting, manipulating, and transmitting information, whatever its use is to be.
>
> Financial accounting is the process of reporting financial information about the organization to the outside world.[61]

Based on the three levels defined by Anthony, a model of "levels of organization and categories of purposes" can be defined for public education. Policy making has been added to the top level of the model which corresponds, approximately, with the legislative and executive levels specified as the top two levels in Figure 8. Four separate but related sets of purposes can be defined relative to the three levels of organization. As indicated, there is considerable overlap among the individual sets of organizational, program, curricular, and instructional goals and objectives.

To the "information handling" and "financial accounting" support functions of Anthony, the author adds "performance and output accounting." Performance and output accounting is the process of reporting performance and output information about the organization to the outside world. This support function is required by societal systems surrounded by

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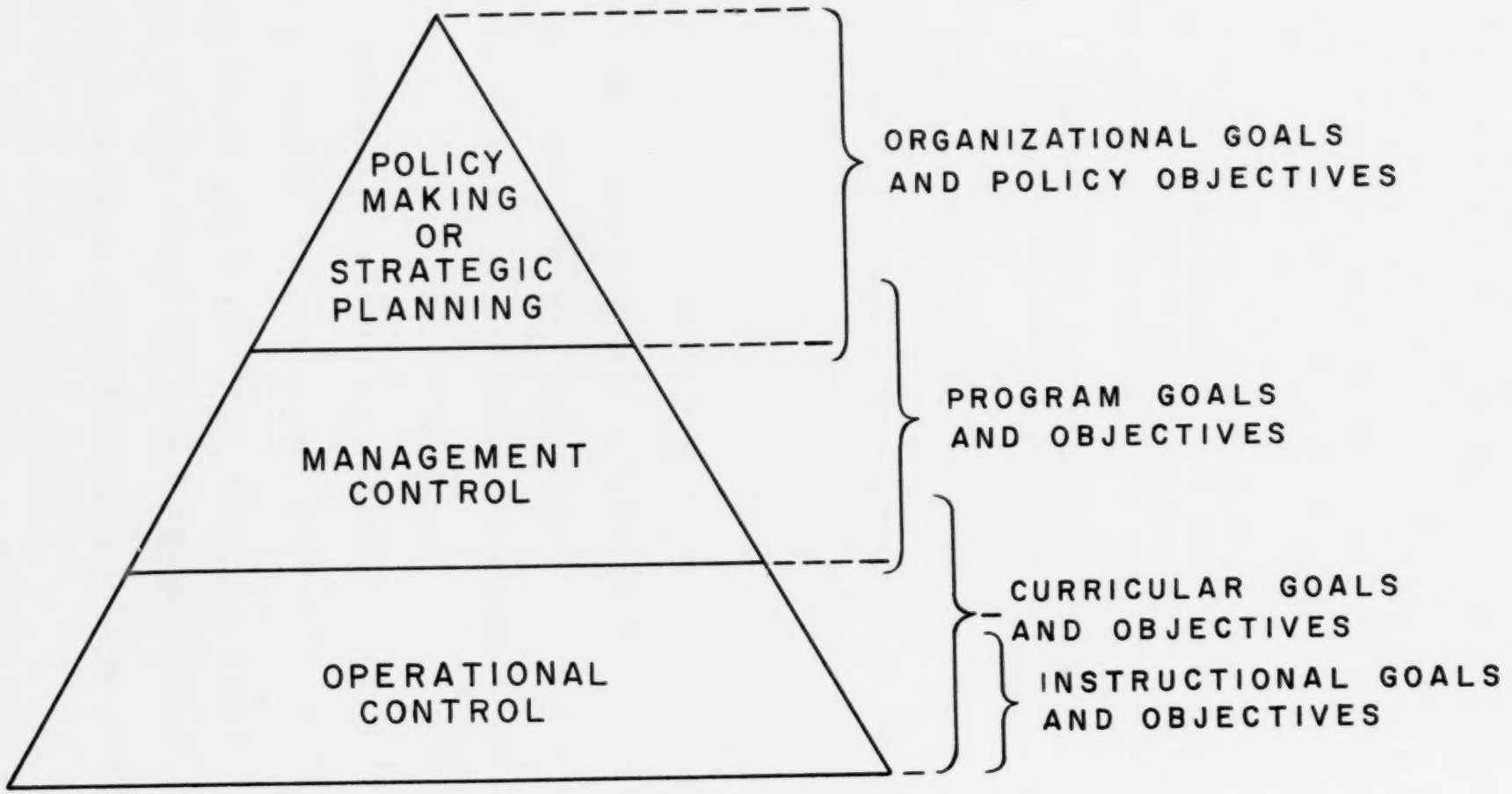
[61] Ibid.

Figure 8

# LEVELS OF ORGANIZATION AND CATEGORIES OF PURPOSES



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technologically-oriented cultures. It focuses upon fulfillment of the societal requirement for "hard data" relative to the goal-directed achievements of societal organizations. It is central to the growing concern by many members of society that public education be made more efficient and effective.

In this regard, Keppel and Pfieffer state that:

> . . . As the society becomes ever more technologically oriented, and as its members become ever more used to making decisions on the basis of "hard" data, it seems reasonable to suppose that education will have to provide more "hard data" about itself. Such information will include both more data on the progress of the individual in learning specific subjects, and data on the success of the educational enterprise as a whole.
>
> But mere reporting will probably not be enough for a culture that is technologically oriented. There will be demands for facts and for judgments on the cost efficiency of techniques of instruction--demands that education is in general unable to fulfill today. One may well argue that such an expectation is ironic in view of the probable resistance of youth to the very idea of the technological culture. But such a culture is nevertheless likely to be profoundly cost conscious, if you will--and the processes of government will increasingly be subjected to systematic analysis along these lines. There seems no reason to believe that education will be a special exception.
>
> Nor will the increasingly technological society stop at cost factors alone. It is of its very nature to increase in specialization and to lay heavy emphasis on the rational organization of its affairs. Increasingly, it will be assumed that such specialization and rationalization lead to both efficiency and effectiveness.[62]

The growing public concern for greater efficiency and effectiveness has prompted public policy decision makers to require the design, development, implementation, and use of improved planning and control systems that feature accountability and accomplishment auditing procedures.

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[62]Francis Keppel and Heinz Pfeiffer, "The Changing Demands on Education," in Edgar L. Morphet and David L. Jesser (eds.) Planning for Effective Utilization of Technology in Education (Denver, Colorado: Designing Education for the Future, 1968), p. 54.

## Accountability and Accomplishment Auditing in Public Education

In most areas of public concern, a multi-level, multi-organizational super-system exists to regulate or control the attainment of societally-preferred future states or goals. The essence of control is a network of relationships that establish financial, performance, and output linkages throughout the super-system. The educational partnership is revealed primarily as a nation-wide accountability structure that is instituted to assure effectiveness in goal-directed achievement and efficiency in the utilization of available inputs.

Accountability may be defined as the quality or state of being accountable, responsible, or liable. In essence, the term "accountability" connotes the following concepts: (1) "subject to an authority;" (2) "subject to penalty in case of default;" (3) "responsibility for one's own actions for which one may be called to account;" (4) "subject to control and review by a designated authority under certain conditions;" and (5) "legally bound or morally obligated to fulfill the requirements of a specific goal-oriented mission."

Many elected public officials recognize the value of implementing an accountability system in public affairs. The combined efforts of concerned public agencies at all levels will lead to the development of such a system. This trend to establish accountability systems in public affairs represents only one instance in a growing movement by public officials to establish mechanisms which will provide them feedback-information relative to how public funds are expended, what services are performed, and what outcomes are achieved. Essentially, their deliberate efforts to secure an accounting of the financial,

performance, and output aspects of public enterprise in terms of the purposes to be achieved illustrate the phenomenon of accountability.

Accountability is established by means of explicitly-stated strategic plans which translate societal values, needs, and desires into the policies of public enterprise. An accountability system is defined relative to the strategic plans, available inputs, and expected outcomes of an enterprise. The system creates reciprocal authority and role relations between organizations and levels of organization. Such relations are essential for the effective, efficient, and responsible management of financial expenditures and performance. The key level of organization in an accountability system is the operational level because it is there that task-level accomplishments result in incremental progress toward desire goals.

Accountability concepts and principles are based as much on democratic ideals, faith in one's fellow men, and trust as they are on surveillance and control. They can be utilized to facilitate achievement of effectiveness and efficiency in the renewal, regulation, production, support, and maintenance programs of a public enterprise. An accountability system can be defined for each program in terms of relevant strategic plans, available inputs, and expected outcomes. Program performance can be examined in terms of essential input and output exchanges which the enterprise transacts with other sectors of society (effectiveness relations). When implemented in an enterprise such as public education they promise improvement in: (1) the quality of educational program performance and learning outcomes; (2) the nature and quality of educational programs; (3) the efficiency and effectiveness of educational programs; (4) positive relationships between the societal costs and

the societal values of public education and educational programs; (5) the quality of information available to policy decision makers; and (6) the quality of policy and management decision making in public education.

Education, as a public enterprise, is a multi-level, multi-organizational system of interrelated and interacting educational agencies. Each agency in the system possesses considerable autonomy in policy decision making and the management of its affairs. However, since each agency is one part in a larger system, policy decisions made by agencies located at higher levels of organization exert considerable influence on agencies located at lower levels of the system. The most powerful means available to Federal and State agencies for exerting renewal influences on intermediate and local-level agencies is through the use of voluntary grant-in-aid incentive programs which require accountability on the part of agency participants.

Accountability requirements can be instituted in an effort to assure the quality of learning outcomes from educational programs which promise to demonstrate and achieve significant societal values. As a condition of voluntary participation, each educational agency would be asked to make the following formal provisions for accountability:

1. To specify program objectives using verifiable performance terms.

2. To adopt and use systematic procedures in the development, installation, operation, and management of educational programs.

3. To develop a comprehensive evaluation plan which can be implemented and used to measure: (a) continuous progress toward specified objectives, (b) the quality of program outputs, (c) the efficiency and effectiveness of the operations and methods-means used to effect planned change or renewal, and (d) the efficiency and effectiveness of program management.

4. To institute independent educational accomplishment audits by outside technical assistance resources to verify program progress toward specified objectives.

A system of accountability for an educational system must be designed in terms of significant legislative, executive, managerial, and operational relations and actions. The system must be flexible enough to accommodate a variety of individual, organizational, and managerial behaviors. It must be adaptive in terms of wide diversities in capability, involvement, interaction-influence, and organizational change contexts. An accountability system must be designed to be responsive to changing societal values, expectations, needs, goals, and demands. It must provide for the continuous appraisal of organizational practices and products as well as for performance and financial accounting.

An educational accomplishment audit is a regular examination and review of an educational agency's demonstrated program performance and outputs by an independent auditor for the purpose of verifying reported educational accomplishments. The audit, in this sense, may be broadly described as the process by which the auditor establishes positive or negative correspondence between explicitly-stated strategic plans for public education (i.e., philosophies, purposes, priorities, and policies) and the actual facts or details of agency program performance and outputs. Educational accomplishments are positive improvements in educational program performance and outputs that can be verified as having become a fact of accomplishment during a specific period of time.

An educational accomplishment audit is performed to verify relative progress toward prespecified purposes according to strategic plans and reports. Audit findings or results are delineated in an audit report

which identifies the areas of program performance and outputs selected for verification and the agency accounts examined and reviewed. It should define the basis on which the examination and review were made, delineate the examination and review procedures used, and express an expert opinion regarding the findings or results of the audit. The expert opinion should state the extent to which an agency's program performance and output accounts (1) present fairly its actual educational accomplishments; (2) are in conformity with generally acceptable educational accomplishment accounting principles and practices; and (3) are consistent with explicitly-stated strategic plans for public education, baseline comparison indices, and past accomplishments.

## Summary

Planned interdependency and accountability are essential elements of intergovernmental cooperation and collaboration in the management of societal systems and planned change. Any pervasive societal change as for example in the area of public education, that entails a major commitment of political, legal, social, economic, and/or technical resources and which promises to affect all of society must be preceded by a change in policy. In this regard, Oettinger emphasized that "changing education policy is comparable in impact to changing national defense policy."[63] A Change in educational policy would affect the

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[63]Anthony G. Oettinger, Run, Computer, Run: The Mythology of Education Innovation (Cambridge: Harvard University Press, 1969) p. 43.

behavior of all individuals and organizations in the educational super-system.

The "new federalism" that characterizes the dynamic aspects of all societal systems is based on specific principles of intergovernmental collaboration which include: (1) national supremacy, (2) broad national legislative and appropriation powers, (3) noncentralized government, (4) maximum local control, (5) planned interdependency, and (6) accountability. These specific principles are guaranteed in the American partnership through a number of key mechanisms that include: (1) separation of powers (executive, legislative, and judicial) at each level of government; (2) separate administrative structures at each level of government; (3) nondisciplined, noncentralized party systems; (4) routinized interaction-influence between centers of power in the management of change; (5) regular intergovernmental consultation, and (6) grants-in-aid from higher to lower levels of governmental jurisdiction.

As previously stated, educational organizations are vehicles of planned societal change. They are regulated by complex policy decision-making processes which experience the dynamic effects of policy formulation and policy implementation interaction-influence. Policy decisions are the primary bases for management action and planning. What is needed is a new perspective of educational management that is oriented toward the policy-formulation and policy-implementation leadership requirements of public enterprise in a continuously changing cultural, societal, and environmental setting.

# CHAPTER IV

# AN EDUCATIONAL MANAGEMENT SYSTEM PERSPECTIVE

The central theme of educational management centers upon individual learners and public policy decisions. The public interest in education extends from the broadest dimensions of the cultural environment through social processes to each individual. Therefore, an educational system must consider the total range of human concerns and pluralistic values operative in public policy decision making. There is need for clearer exposition and dialogue on both the means and ends of education. Education is a function of society and its cultures. The roles and purposes of education are determined by the character of existing social institutions and by the values of the culture.

## A System Approach to Educational Management

A system approach to management presents both an adaptive framework and a strategy that can be used to design, develop, implement, and use programs of planned change. Principal emphasis is upon the development of procedures which can be used to manage the course of planned change and which can be made operable within the prevailing organizational change context.

These procedures utilize the informational benefits gained through the involvement of people in such activities as: (1) appraisal of educational requirements, performance, and achievements; (2) analysis of the cultural environment of education; (3) assessment of educational needs; (4) determination of purposes and priorities for action; (5) appraisal of relevant knowledge and technology; (6) appraisal of relevant educational programs and their demonstrated achievements; and (7) analysis of organizational, educational system, and environmental relations and interactions.

Educational management consists of seven critical functions as depicted in Figure 9. These functions can be specified as: (1) assessing the origins and determinants of policy; (2) appraising organizational and relevant environmental purposes, priorities, policies, and programs; (3) forecasting probable alternative states and requirements; (4) exercising policy decision-making leadership; (5) developing and installing required course(s) and/or method-means for action; (6) performing managerial responsibilities; and (7) determining the effectiveness of performance. Each of these functions must be performed with due respect for relevant organization-environment relations and environmental values, expectations, needs, and goals.

Most management attention is usually focused upon the operational areas of the organization. Management functions in these areas include:

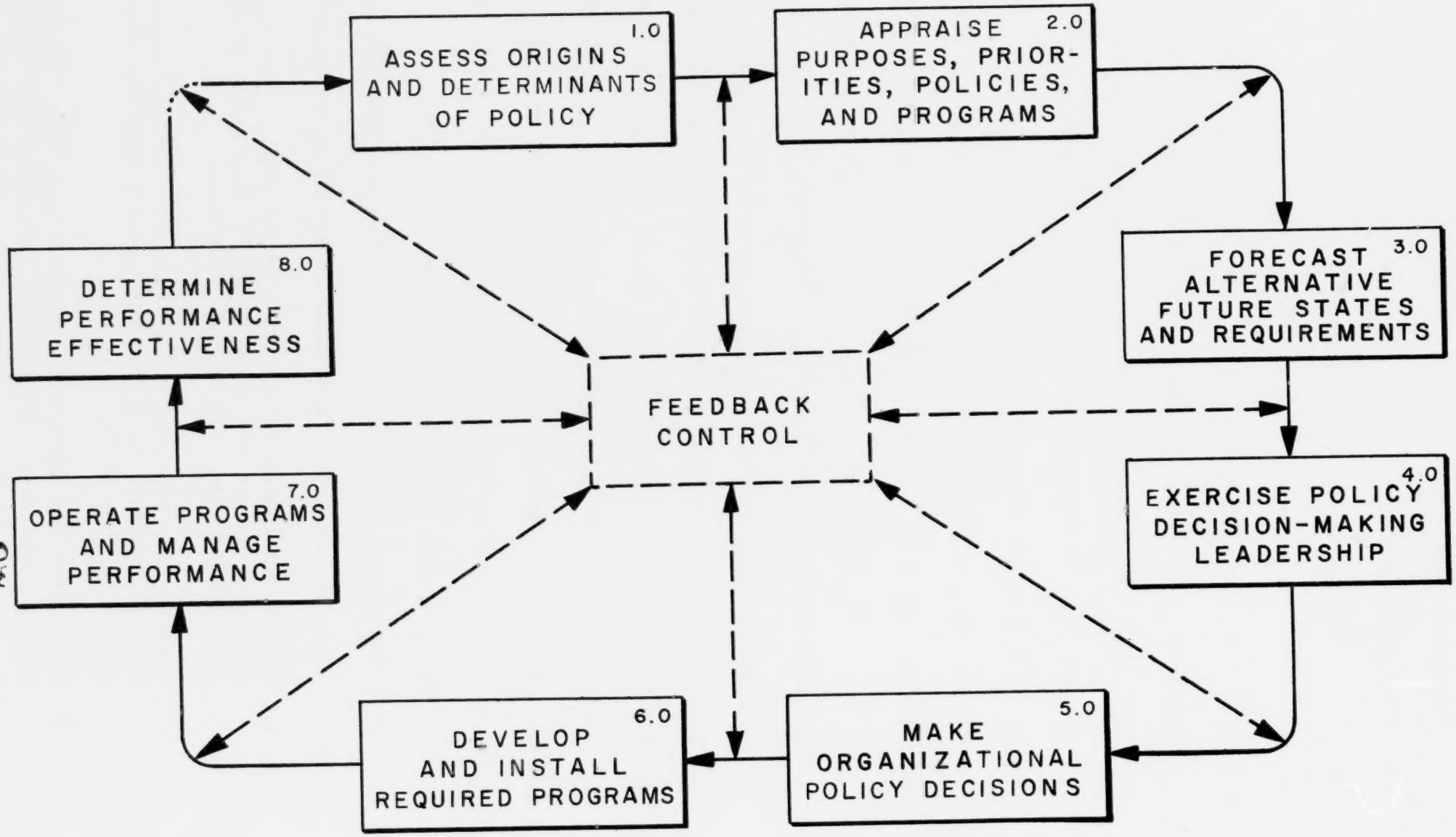
1. Exercising leadership in the negotiation, adoption, and specification of the organization's long-range goals and intermediate and short-range objectives.

2. Defining the expected and/or desired characteristics of outputs required to attain these goals and/or achieve specified objectives.

3. Appraising the precise quality and quantity of the organization's inputs (resources, information, and energy) and defining input

Figure 9

# MANAGEMENT RELATIONS IN ORGANIZATION POLICY DECISION MAKING



characteristics and process elements in terms of organizational objectives and the characteristics of desired outputs.

4. Determining the operational requirements, processes, and functions necessary to systematically transform organizational inputs into desired outputs.

5. Establishing time, cost, and performance requirements and relations.

6. Planning, developing, coordinating, directing, motivating, and controlling organizational efforts in performance.

7. Establishing accountability for performance.

8. Allocating, integrating, and conserving the organization's inputs so that they are utilized efficiently and effectively during the process of transforming learner input behavioral characteristics into desired output behavioral characteristics.

9. Handling information and using it as a basis for effective communication in support of organizational decision making, management, and problem solving.

10. Solving legislative, executive, managerial, and operational-level problems.

11. Making management decisions in terms of organizational policy.

Each of these management functions must be performed within the limits of the organization's legal jurisdiction and the scope of its defined policy. Management performance is limited further by areas of responsibility assigned and patterns of authority delegated by the legislative or policy-making body. Therefore, management performance must be made both responsive and responsible to legislative and executive decisions.

Each function of management must be performed according to policy decisions. Management action must center upon policy and effective achievement. Therefore, emphasis in management must be upon the control of performance through the establishment of a system of accountability for performance in the organization. Since management action must take place within the prevailing organizational change

context, the latter must be continuously appraised. The results of such appraisals must be formulated into operational context descriptions. Such descriptions should include the characteristics, conditions, and situations indigenous to the operational context which are relevant to present and/or expected future operational states.

Control is a management function that is implemented to assure that performance proceeds according to plan. The control function also provides for timely execution and revision of plans; that is, as significant deviations from plans occur, they are corrected or taken advantage of by appropriate adjustments. Control involves management in the definition and the assignment of responsibilities according to objectives and functions. In addition, management must match assigned responsibilities with the relevant information required to execute them in the most efficient and effective manner. Thus, the essence of control is action which adjusts performance to specified or revised standards if deviations occur.

Feedback control procedures establish closed-loop patterns of relationships between management and the performance units to which are assigned responsibilities for performance. Feedback is the property of such closed-loop patterns, which permits the demonstrated performance (outputs) to be compared to performance objectives, plans, and inputs. The principal function of management feedback control procedures is that they facilitate the estimation of variance occurring during performance.

A set of management feedback control elements includes:

1. Statements which define desired and valued outcomes, results, ends, outputs, and/or end states of performance which have been specified using verifiable terms.

2. Requirements and specifications which detail the requisite conditions which must be managed, met, and/or maintained in performance. These conditions include: (a) the limits that are operative;[64] (b) the constraints which must be managed;[65] and (c) the initial, interim, and terminal conditions of performance.

3. Criteria which can be used to measure achievement, degree of change, rate of change, type of change, direction of change, commitment to change, and other factors in performance.

4. Description of the expected course and/or method of action specified in the policy decisions.

5. Motivational rationales which legitimate and justify the expected course and/or method of action in terms of organizational purposes. The rationales must effectively communicate the spirit and the intent of the policy decision and provide an incentive for performance. They should be tailored to each performer's operational frame of reference, using language that is meaningful to him.

A generic management model (Figure 10) can be used to analyze the existing relationships between policy determinants and steps in a management process which can be used to systematically transform policy decisions into desired outputs. This model stresses the design process which is utilized in developing, installing, and operating programs of planned change.

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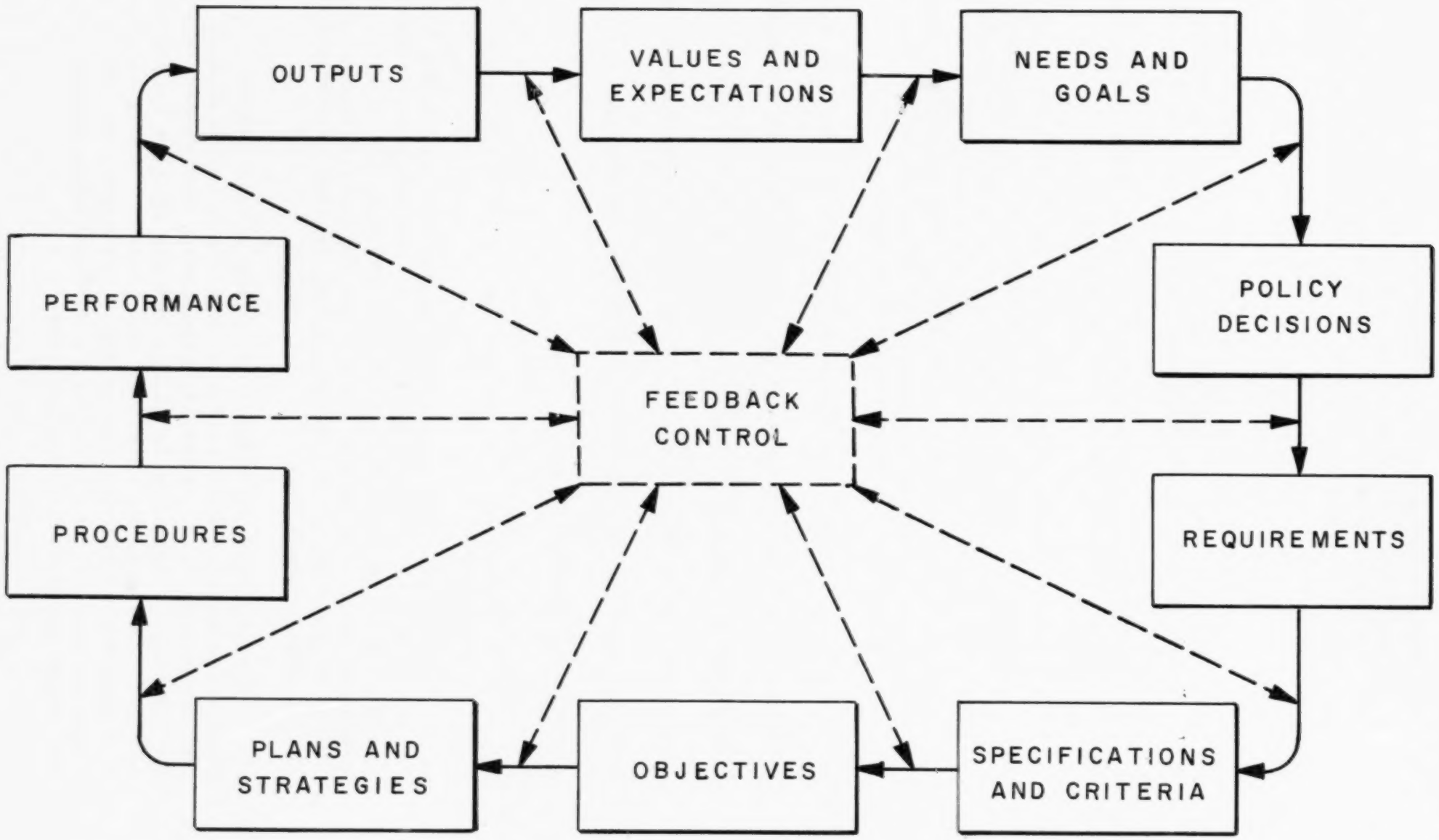
[64]Limits are defined as boundaries and/or boundary conditions which act in terminating, circumscribing, or confining performance. Limits include those requisite conditions which must be accepted as being operative and which cannot be changed during the course of performance. Limits include legal, financial, time, spatial, informational, materiel, and/or energy conditions.

[65]Constraints are forces operating within and/or across performance boundaries which affect purposive efforts in achievement. Constraints can be managed (i.e., reduced, eliminated, redirected, etc.). They may be positive or negative in nature and are usually generated by human beings or performance relations and actions. Among the most important sources of constraining forces are: processes, controls, procedures, plans and strategies, contexts, communications, capacities, capabilities, and other management considerations.

Figure 10

# A GENERIC MANAGEMENT MODEL



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First, the policy decisions instituted by the Congress, state legislatures and state, county, and local boards of education must be assessed systematically. Decision elements must be appraised so that performance requirements may be specified, negotiated, and/or reconciled.

Second, performance requirements must be analyzed into an array of performance specifications and corresponding criteria. Specifications are precise statements containing minute descriptions or enumerations of performance characteristics. Such characteristics detail the required nature of performance and facilitate task achievement through job definition. Criteria are standards which can be used to measure achievement and determine the worth of performance and its outcomes. Criteria can be defined for each performance specification. Thus, specifications and criteria enable management to specify and verify relevant performance variables.

Third, management must structure objectives in verifiable performance terms. Objectives serve as communication referents and as guides for action in performance. Well-formed objectives contain four component statements: (1) the desired and valued outcomes, results, ends, outputs, and/or end states to be achieved; (2) the requisite performance conditions (requirements and specifications) which must be managed, met, and/or maintained in performance; (3) the criteria which can be used to measure achievement, change, and other performance factors; and (4) motivational rationales which legitimate and justify the course and/or method of action to be taken and the expected outcomes to be achieved in terms of individual, organization, and environmental purposes, priorities, policies, and programs.

Performance objectives must be specified using verifiable performance

terms. That is, terms which are meaningful, demonstrable, observable, and/or measurable. Such terms are usually structured using demonstrable and/or observable verbs, measurable nouns, and performance descriptors. Thus, each element of performance would be specified using one or more of the following terms:

1. Appropriate verbs which denote the action to be taken and enable the action to be demonstrated and/or observed. The action to be taken has relevance to the extent that it is identical to, or supportive in the development of, the output behavior required of the performer in the expected future and/or evaluative state.

2. Measurable nouns which denote the object of the action to be taken. This element is used in performance terms to identify what is being acted upon, and it also serves as an aid in directing performance efforts.

3. Descriptors, modifiers, intensifiers, and other terms which describe the object of the action or the action to be taken. Such elements tend to make the action and/or object more meaningful and also deter misinterpretation.

In this discussion, performance refers to the execution of duties which must be completed in a specific manner or according to specified purposes. Further, it is assumed that performance is controlled by planned expenditures of effort and measured using criteria of relevance. When regarded in this manner, all performance must be justified and explained in terms of purposes, relations, and actions. When performance is specified in verifiable terms, it can be managed and replicated.

Fourth, plans and strategies must be developed for the achievement of objectives. They are developed with due regard for: (1) established purposes, priorities, policies, and programs; (2) relevant performance aspects or factors which exist in the organizational change context of reference; (3) probable alternative future states and/or operational contexts to be experienced; (4) available performance alternatives; (5) probable consequences to be experienced; and (6) expected levels

of effectiveness to be achieved.

Each plan details a course and/or method of action together with appropriate management feedback control elements. A plan should be the "best" alternative solution which will satisfy performance requirements in terms of specifications and criteria. A strategy, on the other hand, is designed to tailor the plan to the operational context in which the plan is to be implemented. A strategy is developed to assure the success of a plan in terms of existing performance capabilities and prevailing operational situations and conditions. Strategies embody necessary communication elements to make the plan operative and manageable in a particular change context. Thus, integrated plans and strategies constitute satisfactory management alternatives for effecting planned change.

Fifth, management develops specific procedures which can be implemented to facilitate the achievement of desired performance outputs, cognizant of internal and external constraints. Management procedures provide a basis for the establishment and maintenance of equilibrium in performance. Procedures result when the validity, relevancy, feasibility, acceptability, and reliability of plans and strategies have been determined. Further, management procedures generally are developed for those operations and/or processes which are routine or must be replicated continuously in performance. Thus, the development of management procedures facilitates the achievement of optimal and consistent performance outcomes.

Sixth, demonstrated performance is evaluated, using defined feedback control elements. Because most performance in an educational organization is output-oriented (i.e., conversion of input behavioral

characteristics into desired output behavioral characteristics), both efficiency and effectiveness measurements are made. Performance must be defined in terms of objectives to be achieved rather than jobs to be performed. Thus, performance can be made directly relative to desired outputs and key input-output realtionships.

Educational organizations are created to catalyze and facilitate the transformation of specific input behavioral characteristics of learners into desired and/or valued output behavioral characteristics. The individually and future-oriented change programs developed, installed, and operated to effect desired and/or valued behavioral transformations constitute the performance process of an educational organization. All process requirements, specifications and criteria, objectives, plans, strategies, and procedures must be sensitive to desired learner output achievements.

One of the most important judgments to be made in evaluation is that of determining the worth of performance and its contribution to the achievement of desired and valued outcomes. Contribution is defined as the positive difference between inputs and outputs. Thus, contribution is measured by determining the positive change in characteristics which occurs during the course of performance. The worth of its performance contributions in the achievement of organizational objectives is regarded as the effective productivity of a performance unit.

Last, the effectiveness of outputs is determined. Such determinations are made by environmental judges, who appraise outputs in terms of their perceptions of benefits. Judgment decisions are based upon environmental values and expectations. Effective outputs provoke

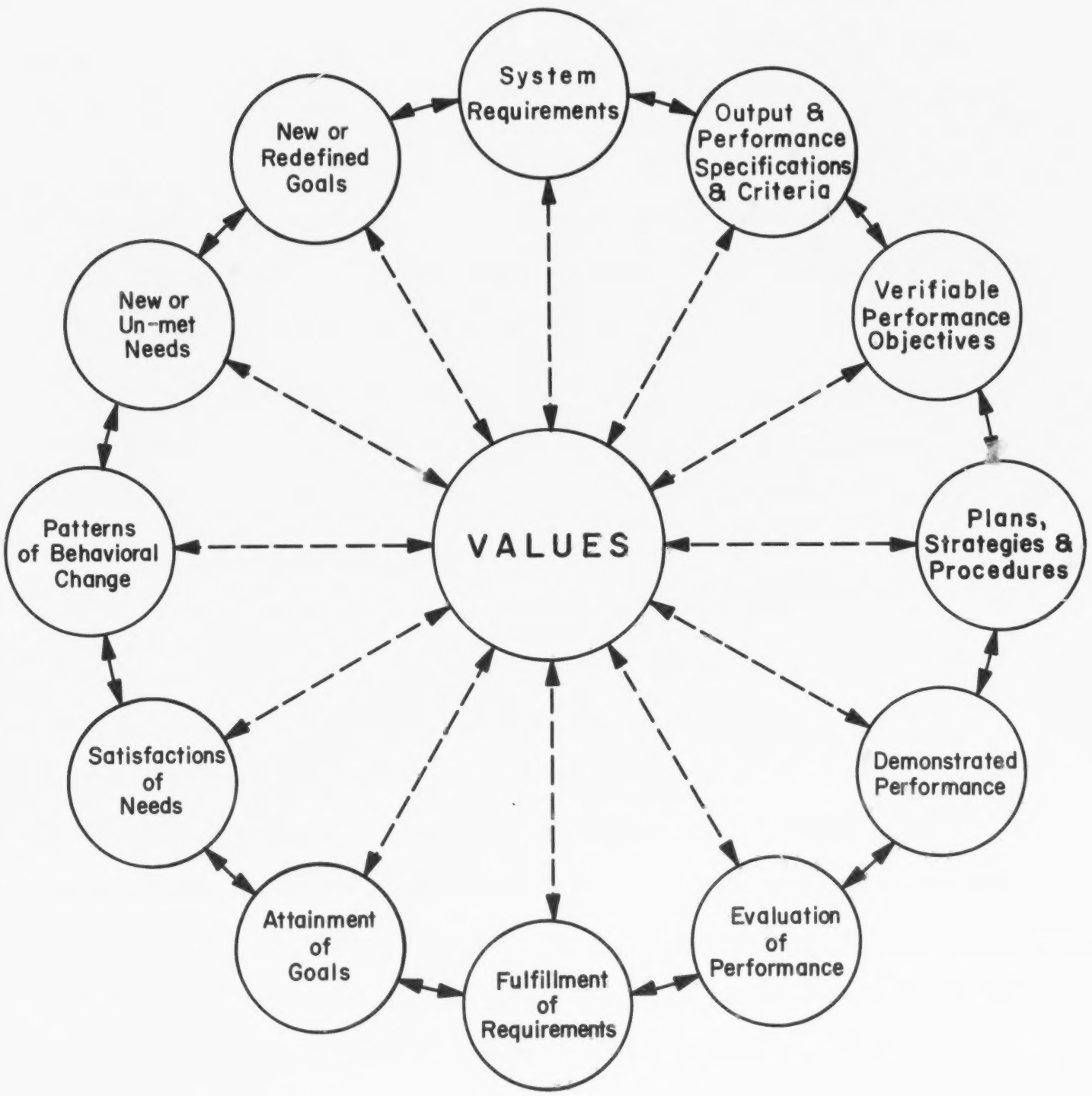
new organizational inputs from the environment. Thus, the organization is an open system that engages in constant transactions with its environment. These transactions constitute a closed-loop pattern of value-based relationships which exist between the organization and its environment.

The centrality of values and perceptions of values in the analysis and evaluation of performance and its outputs cannot be overemphasized. An individual will judge the adequacy of performances, outputs, and achievements in terms of his perceptions of societal values and his understandings relative to what constitutes effectiveness. His perceptions and understandings are strongly influenced by the frames of reference he has developed based on experience and the internal and external vantage points which are available to him for observing and measuring performances, outputs, and achievements. The centrality of values in an analysis of performance cycles is depicted in Figure 11. This cycle of relationships should be reviewed in terms of the management models previously presented.

A system approach to management focuses upon organization-environment relationships. In addition, relevant input-output relationships are identified, analyzed, and defined in relation to organizational purposes. Management is based upon clearly defined objectives which are specified using verifiable performance terms. Emphasis in management is upon feedback control procedures, which lead to efficiency and effectiveness in performance. Finally, all performance is managed so it will result in desired benefits for society.

Figure 11

# CENTRALITY OF VALUES IN AN ANALYSIS OF PERFORMANCE CYCLE



## Management by Objectives

One of the most important features of a system approach to management is that it facilitates management by objectives. Management by objectives is possible because each objective specifies critical feedback control elements which can be used to manage performance. Statements of verifiable performance objectives define expected outcomes, performance requirements and criteria, and motivational rationales that can be used to manage performance at appropriate levels in an organization.

Objectives are important management tools because they define the purpose of organization and without purpose there would be no reason for individuals to cooperate or for trying to organize them. Every organization and each of its parts are expressions of the purposes of that organization. At every organizational level of performance, objectives serve as communication referents and as guides to achievement. Therefore, an integrated, time-phased hierarchy of objectives that is ordered using a milestone events calendar in which actions directed toward the achievement of objectives can be sequentially allocated to finite periods of time constitutes a master plan for the management of performance.

It must be remembered, however, that objectives are tentative in nature. They must be appraised continuously in terms of changing societal values, expectations, needs, and goals. Management must sense continuously the cultural environment of education in order to determine the validity and relevancy of its current objectives. The validity of an objective is established using evidence that can be

empirically verified. The evidence required for determining the validity of educational objectives is derived through the analysis of: (1) policy decisions; (2) social change requirements; (3) societal goals for education; (4) educational needs of specific target populations; and (5) relevant societal values.

The relevancy of an educational objective is determined by the degree to which it facilitates achievement which fulfills social change requirements. A high state of relevancy is established when statements of objective components are identical to evaluative state performance specifications. Other states of relevancy can be established by the degree to which statements of objective components lead to performance which supports the achievement of desired social change requirements.

Objectives can be defined as central elements in a cycle of decision relationships (Figure 12). The following decision relationships are defined to exist in the cycle:

1. Relevant information, when related to performance objectives, provides a basis for making decisions.

2. Decisions made in relation to objectives lead to performance.

3. Appraisals of demonstrated performance, using relevant feedback control elements, provide an indication of the significant contribution being made toward the achievement of specific objectives.

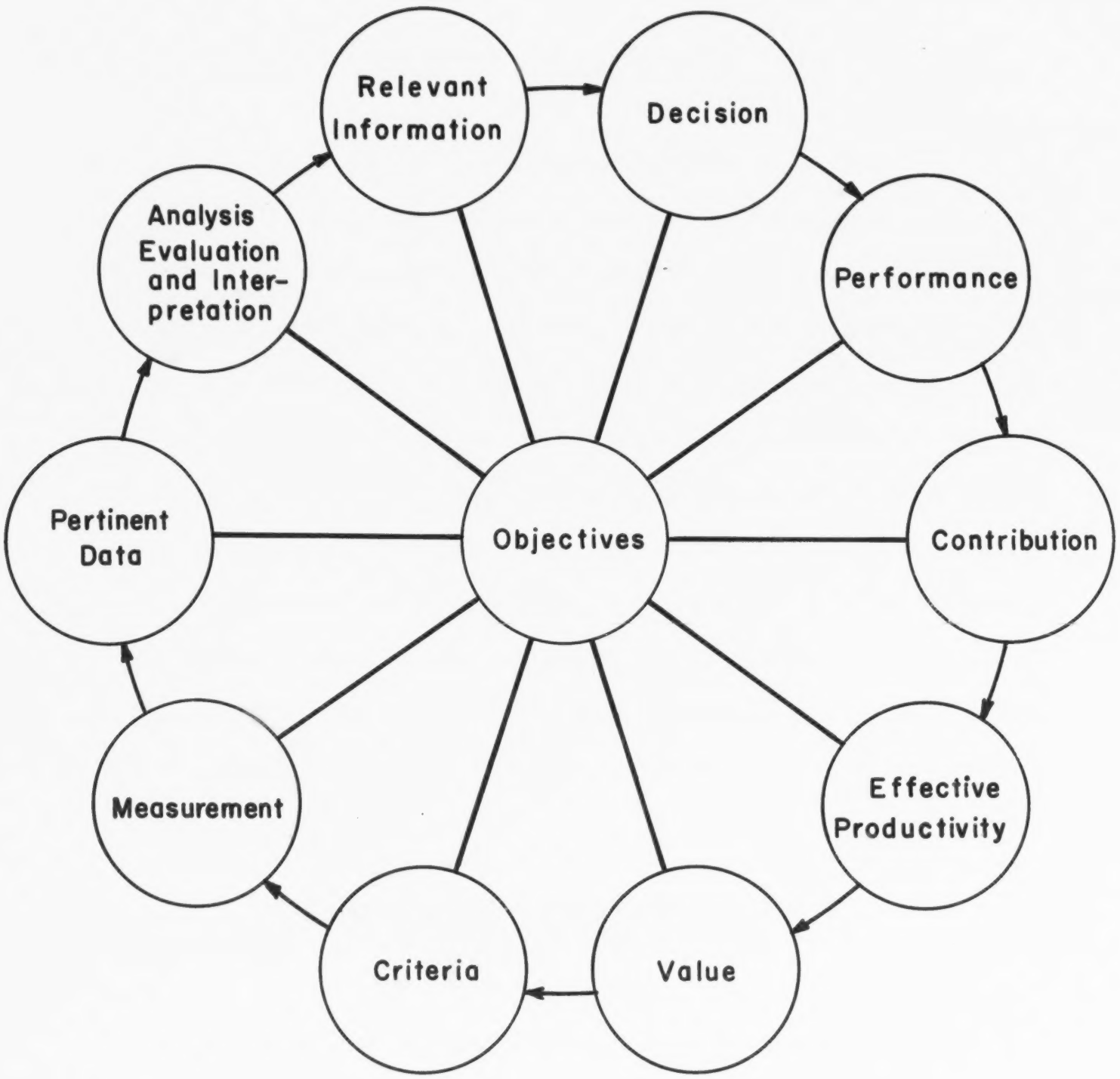
4. The contribution of a performance unit, when related to objectives, produces an indication of that unit's effective productivity.

5. Effective productivity of a performance unit is determined in relation to the achievement of organizational purposes. Defined performance objectives enable management to determine the worth of a performance unit's effective productivity and assign values to its performance outputs.

6. The values assigned to performance and/or performance outputs, when related to objectives, provide a basis for the specification of criteria. When educational programs achieve desired levels of valued outcomes, society generally specifies more ambitious levels to be achieved.

Figure 12

THE CENTRALITY OF OBJECTIVES IN A CYCLE OF DECISION RELATIONSHIPS



7. Criteria of relevance, when related to objectives, provides a basis for performance measurement.

8. The measurement of performance in relation to objectives yields pertinent data.

9. Pertinent data constitute primary inputs for the analysis, evaluation, and interpretation of performance in relation to objectives.

10. The analysis, evaluation, and interpretation of pertinent data, when related to specific objectives, yields relevant information for decision making.

The foregoing relationships emphasize the importance of specifying objectives in verifiable performance terms. The cycle of decision relationships outlined in Figure 12 is oriented to future time and to the fulfillment of future requirements. The cycle can be used to gain critical feedback information in advance of decision acts through the use of simulation techniques which allow management to: (1) predict future operational requirements and contexts; (2) select alternative courses and/or methods-means for action; and (3) predict the probable consequences to be experienced if specific alternatives were implemented. Thus, the cycle of decision relationships can be used to assess the probable effects of alternative management actions without disturbing the on-going state of operational effectiveness in the system.

## Educational Management and Organizational Decision-Making Processes

Quality outcomes of organizational decision-making processes depend upon specific management relations and actions. The significant management relations in organizational policy decision making are depicted in Figure 9. This model reveals that management must perform

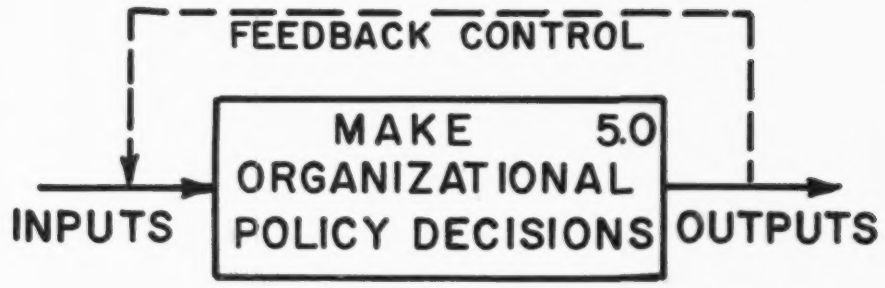
four primary activities before organizational policy decisions are made. It also reveals three additional management activities regarding the implementation of policy decisions.

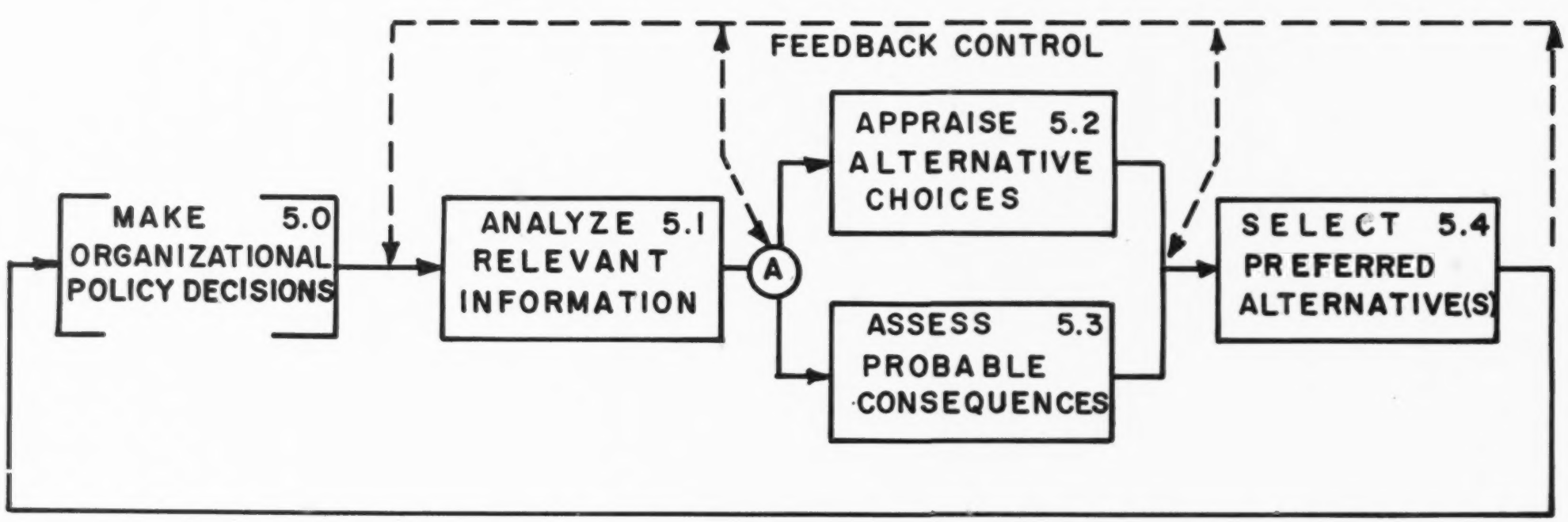
The principal aspects of making organizational policy decisions are presented in Figure 13 using a flow block diagram format. This model reveals that an appraisal of relevant information is performed as a first step in policy decision making. This appraisal is performed with due respect for the philosophies, purposes, priorities, policies, programs, and past commitments of the organization. As a second step, the model specifies that an appraisal of alternative choices should be made concurrent with an assessment of the probable consequences which will be experienced by the organization if a specific alternative is selected. These two concurrent activities are performed as integral functions of one another in an effort to determine the long-range, intermediate-range, and short-range implications of each alternative choice-consequence relation for the organization. Thereafter, a selection of preferred courses and/or methods-means for action and change can be made in terms of desired and predicted outputs, values, costs, levels of effectiveness, risks, and uncertainties. Every effort should be made to define risk-gain factors in terms of the probabilities and requirements that can be associated with goal-directed achievement.

Policy decisions are necessary prerequisites for performance in any social system. Significant changes in outputs require corresponding changes in policy. All performance must take place within the pattern of authority and the scope of assigned accountability established by the policy-making body of the system. Policy decisions decide courses and/or methods of action to be taken and specify requisite conditions

Figure 13

# A FUNCTION FLOW MODEL OF ORGANIZATIONAL POLICY DECISION MAKING



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that must be managed, met, and/or maintained in performance.

Further, policy decisions constrain and define limits for all organizational performance. Such decisions are usually made in direct relation to stated goals, desired outputs, and defined policy of the system. Quality decisions and decision-making processes require significant sets of relevant information. Thus, the information gathering and handling procedures of the system must be designed to meet the significant informational requirements of decision makers and decision-making processes in the system or organization of reference.

## A System Approach to Planning and Management

Effective planning and management depends upon the nature and quality of the information that can be gathered for decision making. A system approach is designed to secure complete, accurate, relevant, and timely information which can be used to assure the quality and effectiveness of organizational performance and outputs in relation to prespecified objectives. The entire approach can be made sensitive and responsive to the explicitly-defined time, cost, value, and technical requirements of planned change.

Managers who possess proficiencies in the use of system analysis, synthesis, and evaluation techniques are able to: (1) assess relevant change contexts; (2) construct adaptive frameworks and change models; (3) formulate plans and strategies for effecting change; (4) find organizational and management problems; and (5) provide viable alternatives for problem resolution. Each of these activities are performed in an effort to secure valid, factual, and reliable information

for the development, installation, and operation of effective public education programs.

Through the utilization of a system approach in planning and management, the variety and quality of information secured for organizational decision making will be sufficient to: (1) define the goals and verifiable performance objectives of needed and desired educational programs; (2) define preliminary program performance and output specifications and criteria; (3) formulate preliminary measures of program effectiveness; (4) generate and describe a range of promising program alternatives; (5) predict and describe the probable consequences of each alternative; (6) evaluate the adequacy of each alternative in light of its probable consequences; and (7) select a satisfactory mix of preferred alternatives for goal attainment and change. The comprehensive planning system described in Chapter V incorporates these essential aspects of a system approach.

# CHAPTER V

# A COMPREHENSIVE PLANNING SYSTEM PERSPECTIVE

A comprehensive planning system is instituted to create future orientations and expectations among the members and clients of an organization. It is designed to connect strategic planning with the performances actually demonstrated relative to the achievement of prespecified outcomes according to plans. A viable comprehensive planning system requires broad, multi-level human involvement and functions as an adaptive mechanism that produces explicit, future-oriented plans which can be used as communication referents and as guides for action in planned change.

## Strategic Planning and Plans

Strategic planning is a four-fold process that produces a logically-integrated set of planning products that enables an organization to rationalize its actions in terms of commonly-shared societal values and beliefs. The process involves: (1) the derivation and specification of tentative statements of organizational philosophy, purpose, priority, and policy; (2) the successful management of human conflict relative to individually-held values, beliefs, goals, needs, and desires;

(3) the negotiation of "mutually-satisficing" final statements of philosophy, purpose, priority, and policy; and (4) the logical integration of the organization's strategic plans. The resulting set of strategic plans can be used to assure that significant internal and external relations of the organization will be effectively and efficiently maintained relative to needed and desired future orientations and expectations.

An organizational philosophy is a system of values, beliefs, concepts, and attitudes that serve to guide and reinforce the actions of individuals and groups in an organization. Generally, it is specific to a broad area of human endeavor wherein it serves as a framework for the specification of purposes, priorities, and policies.

Organizational purposes are goals and objectives which define the intended or desired ends and/or end states of action and change. A goal is a universal, continuing purpose that provides members of an organization with a sense of broad direction through time. It is general to a wide area of human endeavor and is suggestive of a range or set of corresponding subordinate objectives. An objective is a target for action and change which has definite temporal limitations and performance and output parameters. Its achievement advances the organization toward the attainment of a corresponding goal. An integrated, time-phased hierarchy of goals and objectives reflecting the multi-level setting and practices of an organization constitutes one form of a master plan for action and change.

An organizational priority is a societal (external) or organizational (internal) change variable that has been defined to have precedence in time, position, or value. It is a subjective judgment which establishes

the significance of alternative choices and probable consequences. Priorities are usually determined by the application of political, legal, social, economic, and/or technical rationality to a range of alternative choice-consequence decision variables.

An organizational policy is a preferred course of action and change that is selected from among alternatives, in light of probable societal futures and related choice-consequence change variables, to guide and influence present and future organizational decisions. Policy serves as a guide to thinking and acting in specific situations. As statements of organizational intent, policies are made to guide others in decision making without being so specific as to impose decisions. They are generalizations or abstractions regarding the structure, climate, and/or expected future behaviors of the organization.

In the absence of generally understood strategic plans, an organization's actions will of necessity prove haphazard; conflicting proposals will compete with each other without an effective basis for their resolution. Each problem, as it arises, will seem novel and energies will be absorbed in analyzing its nature, rather than in finding its probable causes and seeking solutions. Organizations will find it impossible to make meaningful choices among the mass of innovative action and methods-means alternatives with which sociological and technological research and development programs will soon overwhelm them. They will continue to cede the initiative to others and their individual plans and actions will tend to become increasingly conservative.

Many day to day operational problems result from an organization's failure to accept the challenge of perfecting explicitly-stated strategic

plans. Organizations have tended to ascribe their standards of reasonable behavior to similar organizations they regard as leaders; they have had difficulty in defining their purposes and priorities in relation to the revolutionary forces loose in the world. They have been largely ineffective in the management of internal conflict and the resolution of crises. Above all, they have had a penchant for considering their problems as primarily technical and to confuse strategic planning with the maximum development of constraining rules and regulations.

Strategic plans translate societal values into organizational policy. Whether the goals of an organization are progressive or traditional, whether it seeks to achieve or prevent change, its strategic plans must be explicitly stated in order that they can be used to define what purposes are worth striving for and to develop appropriate programs for achieving them. By establishing a pattern of response in advance of crises situations, strategic plans permit an organization to act purposely in the face of challenges. In their absence, an organization will constantly be surprised by events. Adequate strategic plans are therefore a basic requirements for organizational continuity and effectiveness.

## A Model for a System for Comprehensive Planning

A model of a system for comprehensive planning (Figure 14) reveals specific planning purposes and steps.[66] It also indicates a time span

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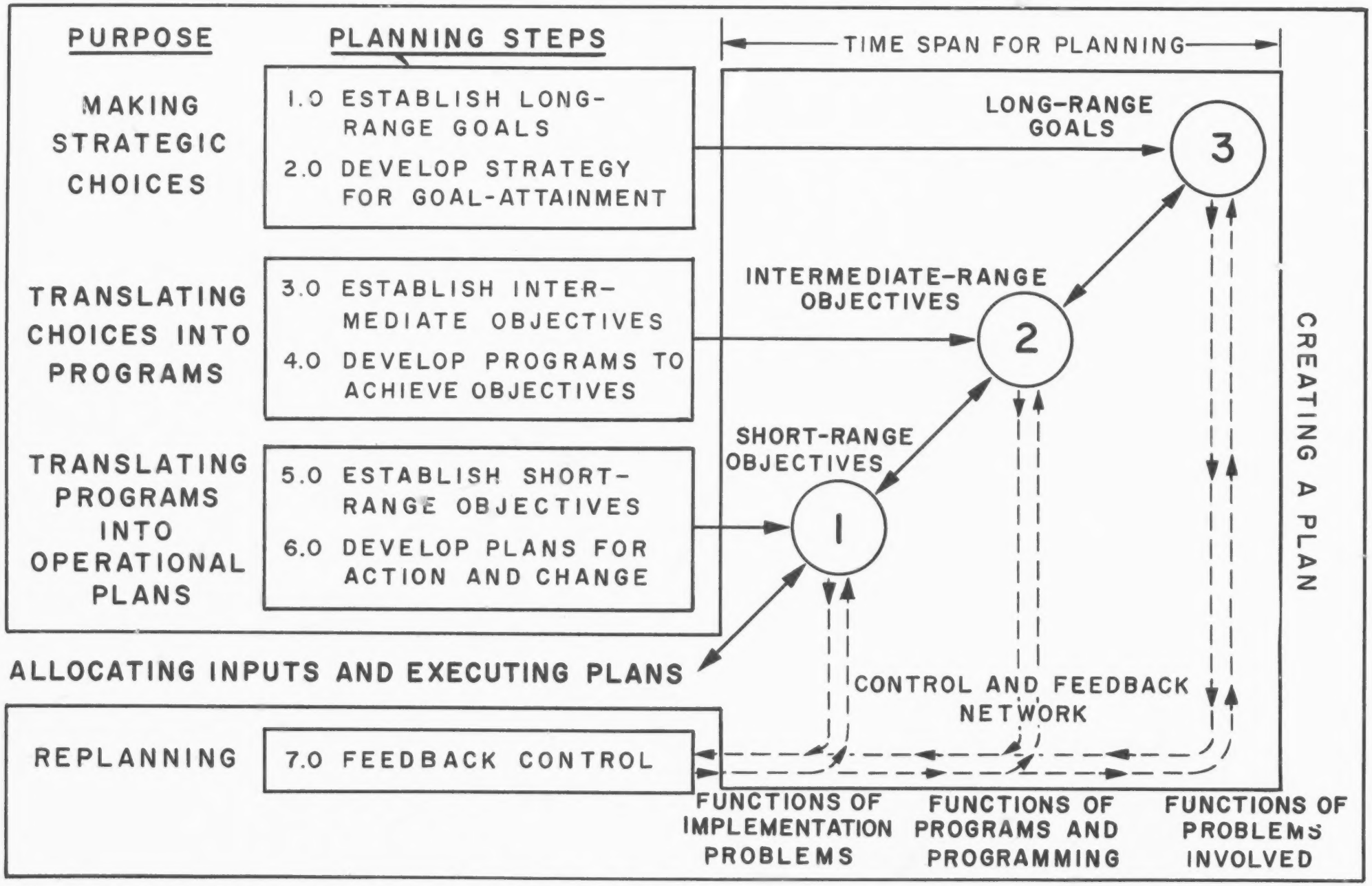
[66]The model presented was adapted from Raymond E. Kitchell's model of "A System for Comprehensive Planning" as reported in David Novick (ed.) Program Budgeting (New York: Holt, Rinehart, and Winston, Inc., 1969), pp. 340-341.

Figure 14

# A SYSTEM FOR COMPREHENSIVE PLANNING




1 ACHIEVEMENT OF SHORT-RANGE OBJECTIVES WITHIN TIME-COST-PERFORMANCE REQUIREMENTS

2 ACHIEVEMENT OF INTERMEDIATE-RANGE OBJECTIVES AS INCREMENTAL PROGRESS TOWARD LONG-RANGE GOALS

3 ATTAINMENT OF LONG-RANGE GOALS



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for planning in relation to creating a plan. The primary purposes to be achieved through the design, development, implementation, and use of a system for comprehensive planning are: (1) to make strategic organizational choices; (2) to translate strategic choices into programs of planned change; (3) to translate programs of planned change into manageable and operable plans for action and change; (4) to allocate available inputs to operational units having the necessary capabilities to effect planned change; (5) to execute plans for action and change in terms of prespecified purposes and related outputs; and (6) to engage in continuous replanning to assure the quality and effectiveness of performance and related outcomes in a constantly changing world.

The planning steps in a system for comprehensive planning would include:

1. Establishing long-range goals.
2. Developing strategies for goal-attainment.
3. Establishing intermediate-range objectives.
4. Developing programs to achieve objectives.
5. Establishing short-range objectives.
6. Developing plans for action and change.
7. Establishing feedback control procedures which can be instituted to insure that actions and change will result in goal-directed progress according to plans.

Each of these steps can be broken down into subordinate planning activities that can be performed in an effort to secure the nature and quality of data and information needed to make informed planned change decisions. A discussion of each planning step is presented in the next section of this chapter.

The model indicates that the "time span for planning" extends

beyond the time frame for attainment of long-range goals. This is especially true when one considers that long-range goals are only tentative and will be subjected to continuous analysis, evaluation, and revision in light of evidence collected while progress is being made along the planned course of change. Long-range goals in public education are generally functions of society-environment impact problems. Intermediate-range objectives are functions of major organizational program efforts and programming activities which are directed toward the attainment of specific long-range goals. Short-range objectives tend to be functions of the implementation problems which are experienced by operational units which are responsible for executing courses of action according to plans.

With respect to "creating a plan," Kitchell has stated that one must:

> Translate the choices into statements of: Why the action is required. Plans and resources involved. End results expected and when. Means of measuring progress by: (a) identifying critical planning assumptions to be monitored; (b) specifying performance standards; (c) prescribing the performance schedules to be met; (d) prescribing the financial limitations to be met.[67]

A system for comprehensive planning must be designed to facilitate the development, installation, and operation of programs of planned change. Programs are groups of closely related and interdependent inputs (i.e., resources, information, and energy), activities, and events that are managed according to plan and which contribute collectively to the achievement of prespecified purposes. Since program alternatives can best be appraised using activity-event networks, provisions should

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[67] Ibid.

be made for the use of network-based management procedures in planning. These procedures are especially valuable for determining the time, cost, and technical requirements of performance in relation to an explicitly-stated objective. Knowledge of such requirements must be secured before policy-makers can be afforded the information necessary for informed decision making.

A comprehensive planning system for a public school district must be responsive to national, regional, state, county, and district educational goals, needs, and desires. If it is to provide satisfactory plans for change (i.e., plans that are valid, relevant, feasible, acceptable, and reliable), then the system must secure the nature and quality of information needed to describe the alternative choices which can be made and predict the probable consequences (costs and values) of each alternative. In practice, a comprehensive planning system must be designed to facilitate: (1) the application of relevant knowledge to specific educational and organizational issues; (2) the utilization of new and/or available knowledge in multi-level, organizational decision making; (3) the improvement of educational and organizational decision-making processes; and (4) the effective and efficient achievement of community and school district purposes which are responsive to the needs and desires of various groups of "interesteds" relative to public education.

## Discussion of the Steps in Comprehensive Planning

Each of the foregoing steps in comprehensive planning will be discussed in outline form to emphasize essential planning activities

and considerations. No claim is made regarding the completeness of the outline in terms of the elements presented. However, each element presented represents an essential planning activity and consideration in comprehensive planning.

## 1.0 Establishing Long-Range Goals:

1.1 Critically appraise the relevant political, legal, social, economic, technical, and cultural issues and problems which underlie the mission. Define the desired and valued benefits to be achieved if the mission is accomplished. Review the mission statement and detail operational definitions for each key performance term. Develop a written description of the mission and the expected benefits to be achieved if the mission is successfully accomplished.

1.2 Gather information relevant to the mission and prepare scenarios regarding the probable alternative future states which may be experienced near the end of the mission at which time it is expected that long-range goals and related benefits will be achieved.

1.3 Set and order tentative goals for mission accomplishment. Develop an analytical framework (tentative program structure) that can be used to analyze the goals in relation to required outputs and inputs, input-output transformations, and operational activities to be performed in accomplishing the mission. These goals can be expected to change during the course of mission accomplishment as more evidence becomes available for decision making.

1.4 Appraise anticipated mission output and performance requirements and criteria in an effort to define particular differences to be effected and probable difficulties which may be experienced during mission

accomplishment.

1.5 Forecast risks and uncertainties which are perceived to be indigenous to the mission. Develop alternative plans, strategies, and procedures which might prove helpful in: (a) overcoming perceived mission difficulties; (b) reducing risks; and (c) eliminating uncertainties. Select or develop suitable methods-means alternatives for each alternative plan, strategy, and/or procedure developed.

1.6 Develop criteria for the selection of alternatives. Determine how the criteria will be ranked and weighted. Establish criteria-setting methods, procedures, and instruments.

1.7 Appraise each alternative goal and mission and perform match-mismatch comparisons between alternatives. (Such comparisons must account for relevant: (a) purposes, priorities, and policies; (b) aspects of performance and of the operational context in which the mission is to be accomplished; (c) perceptions of the consequences to be experienced in terms of time, cost, and performance estimations; and (d) probabilities that the mission can be accomplished and the tentative goals will be attained.)

1.8 Choose the most satisfactory goal and mission alternatives with due regard for political, legal, social, economic, and technical requirements and the long-range, intermediate-range, and short-range implications of each alternative for the organization.

2.0 Developing Strategies for Goal-Attainment:

2.1 Review the long-range goals, scenarios, forecasts, and basic assumptions identified and/or defined in 1.0. Negotiate, reconcile, and/or revise the tentative goals set for mission accomplishment in 1.3.

Define strategic plans that can serve to activate and regulate performance during the course of planned mission accomplishment.

2.2 Develop an up-graded and up-dated program structure that can be used as an adaptive, analytical framework for the investigation and appraisal of issues, alternatives, consequences, problems, objectives, plans, strategies, and procedures. (This structure constitutes the primary planning input to be developed and will be used as the basic referent during all planning steps that are to follow.) Use the structure to prepare a detailed description of present and probable future states and detail descriptions of each state in terms that are consistent with the design elements of the framework.

2.3 Review, up-grade, up-date, and integrate the planning intelligence gathered and/or developed in 1.2 and, using the program structure, prepare a detailed description of the goals and goal states to be attained in mission accomplishment. Revise the mission statement and operational definitions specified in 1.1. Perform mission, function, task, and methods-means analyses in an effort to develop a set of mission-related planning information that is complete, accurate, relevant, and timely. Assess alternative courses and methods-means for action that facilitate accomplishment of the mission.

2.4 Review 1.4 and 1.5, then develop a profile of objectives, major activities, and events which can be visualized for mission accomplishment. Detail an activity-event network or activity flow diagram which can be used to establish logical relations and dependencies between the activities that must be performed to accomplish the mission. Review and appraise each alternative course and methods-means for action using factors specified in 1.6. Perform match-mismatch comparisons

between alternatives using factors specified in 1.7. Up-grade the mission profile and other mission accomplishment diagrams to establish the logical sequencing of objectives and related activities and events.

2.5 Choose the most satisfactory alternatives with due regard for: (a) human involvement; (b) organizational capability; (c) interaction-influence; (d) accountability requirements; and (e) relevant factors in mission accomplishment specified in 1.8.

2.6 Develop strategies for energizing patterns of human interaction-influence which will facilitate the application and utilization of the total human resource potential available for goal attainment. Develop a strategy for continuous planning, integrate network-based management (PERT/CPM) procedures, and provide for the use of an interdisciplinary task force and expert opinion in critical planning and management activities related to mission accomplishment.

3.0 Establishing Intermediate-Range Objectives:

3.1 Review long-range goals, goal-directed missions, and long-range forecasts regarding future states, outputs, and/or benefits to be achieved.

3.2 Review, up-grade, up-date, and integrate the planning intelligence derived in planning steps 1.0 and 2.0.

3.3 Specify, using the adaptive program structure, tentative mission objectives in verifiable performance terms. Develop, insofar as possible, a logically-integrated hierarchy of mission objectives. Negotiate, reconcile, and revise the goals defined in 1.0 and 2.0 as required by new evidence.

3.4 Appraise defined mission outputs, requirements, and criteria

that are relevant to particular entry, enroute, and evaluative states to be achieved during the course of mission accomplishment. Evaluate each of these states in an effort to define particular difficulties, risks, and/or uncertainties which may be experienced at various stages of mission accomplishment.

3.5 Delineate a set of basic assumptions which will be used in planning and directing efforts toward the achievement of intermediate-range objectives. (These assumptions constitute the axiomatic foundations of the mission plan.)

3.6 Review 2.3 and 2.4, then develop alternative plans, strategies, and procedures which can be implemented in relation to specific sets of objectives to: (a) effect required differences; (b) overcome particular difficulties; (c) reduce specific risks; and/or (d) eliminate uncertainties. Select or develop suitable methods-means alternatives for effecting differences, overcoming difficulties, reducing risks, and/or eliminating uncertainties.

3.7 Review 1.6 and 2.4, then develop criteria for the selection of objective-related alternatives. Determine how the criteria will be ranked and weighted. Establish criteria-setting methods, procedures, and instruments.

3.8 Review 1.7 and 2.4, then appraise each objective and intermediate mission alternative and perform match-mismatch comparisons between alternatives.

3.9 Choose the most satisfactory intermediate-range objective and mission alternatives with due regard for the factors specified in 2.5 and other factors that are relevant to the achievement of specific intermediate-range objectives and the accomplishment of related missions.

4.0 Developing Programs to Achieve Objectives:

4.1 Use the adaptive program structure to review the issues, differences, alternatives, consequences, problems, difficulties, risks, and/or uncertainties that can be defined as relevant to the achievement of intermediate-range objectives and related missions.

4.2 Perform an iterative check of planning steps 1.0, 2.0, and 3.0 in an effort to integrate an up-dated, up-graded, and revised set of planning intelligence. Assess the planning inputs required to develop program plans. Mobilize and acquire the inputs (information, energy, and resources) required for program development.

4.3 Review 3.6, then appraise alternative courses and methods-means for action and perform match-mismatch comparisons between alternatives.

4.4 Review 3.8, then appraise alternative courses and methods-means for action. Perform match-mismatch comparisons between alternatives.

4.5 Choose the most satisfactory program plan alternatives with due regard for the factors outlined in 3.9 and additional factors relevant to particular program plan alternatives.

4.6 Design programs for the expenditure of planned change efforts using the program structure developed in 2.2 as an analytical design referent. Integrate an activity-event network which can be used to assess the time, cost, and technical requirements involved in achieving each objective.

4.7 Make a tentative allocation of organizational inputs by programming available inputs to specific activities in accord with prespecified objectives, responsible organizational performance capabilities, and established program plans.

5.0 Establishing Short-Range Objectives:

5.1 Review intermediate-range objectives, related missions, and descriptions of the probable entry, enroute, and evaluative states to be achieved. Perform an iterative check of the outputs developed in planning steps 1.0, 2.0, 3.0, and 4.0 to up-grade, up-date, and revise planning intelligence.

5.2 Review the program plans and programs developed in 4.0 and define relevant program elements in terms of related short-range objectives.

5.3 Develop a work breakdown structure using the logic of the network-based diagrams and procedures developed in 2.4 and 2.6. (The program structure should be used as a referent.) Forecast the workload requirements of each program and detail requirements in terms of necessary performance capacities, capabilities, training, and experience. Detail any special requirements which must be met, managed, and/or maintained with respect to executing programs of planned change.

5.4 Identify and develop alternative courses and methods-means for action which can be defined as required for the establishment of short-range objectives.

5.5 Identify areas of planned change which have been selected for high consequence impact. Develop short-range objectives for such change requirements and define criteria which can be used to measure effectiveness. Review 3.8 and 4.5, and then appraise each short-range objective alternatives and perform match-mismatch comparisons between alternatives.

5.6 Choose the most satisfactory short-range objective alternatives with due regard for those factors specified in 1.8, 3.9, and other

factors that are relevant to the achievement of specific short-range objectives.

6.0 Developing Plans for Action and Change:

6.1 Review the short-range objectives which have been established and the forecasts which have been made relative to the achievement of such objectives.

6.2 Develop an accountability system for the workload that was forecasted based on evidence collected using the work breakdown structure and other network-based management procedures. Assign specific responsibilities and delegate commensurate authority for the fulfillment of performance requirements. Analyze the intermediate and short-range objectives and detail management and operational control procedures. Develop feedback control networks and design a plan for management surveillance of goal-directed progress.

6.3 Prepare detailed work schedules using network-based management procedures.

6.4 Determine the time-cost-performance requirements of each goal-directed operation and recommend necessary changes that should be made in operations and plans.

6.5 Review purposes, priorities, and policies and recommend any changes that are necessary to accomplish the mission. Check through the hierarchy of plans and strategies for compatibility in multi-level activities and consistency in planning steps.

6.6 Determine managerial requirements and specify corresponding administrative functions which will be delegated to fulfill such requirements. Detail job descriptions which reveal: (a) the objectives

to be achieved; (b) the functions to be performed; (c) the relations to be maintained; (d) the duties and responsibilities of the position; (e) the requisite conditions to be managed, met, and/or maintained; (f) the criteria to be used in judging the effectiveness of performance; and (g) a rationale which can be used to justify and relate all performance factors to the organization and its philosophies, purposes, priorities, policies, and programs. Design communication networks, channels and linkages which can be used to manage and conserve the expenditure of effort in the system.

7.0 Establishing Feedback Control Procedures:

7.1 Appraise the legislative, executive, managerial, and operational decision-making requirements in goal-attainment and related mission accomplishments.

7.2 Determine the quality and nature of feedback information required by each performance unit to develop optimal levels of proficiency and efficiency.

7.3 Determine the informational requirements of the feedback control or regulatory system in terms of available inputs, output and performance requirements and criteria, outputs, input-output transformation processes and operations, and purposes to be achieved.

7.4 Develop indices of accomplishment, quality control specifications and criteria, and other performance standards which can be used to observe, measure, monitor, report, evaluate, revise, and otherwise control the effectiveness of performance and the quality of outputs in relation to prespecified purposes.

7.5 Institute feedback control procedures which insure that

actions and change will result from goal-directed progress that is in accord with explicitly-defined plans.

The foregoing steps in comprehensive planning constitue the integrative aspects of planning in a planning-programming-budgeting system.

# CHAPTER VI

## A PLANNING-PROGRAMMING-BUDGETING SYSTEM PERSPECTIVE

A Planning-Programming-Budgeting System (PPBS) is an integrated and systematic means for improving public policy decision making in society and its component organizations. PPBS is being used increasingly, at all levels of government, as a public policy decision-making tool because it can accommodate variety in societal affairs, organizations, and behaviors. As a tool, it can be made sensitive to changing societal goals, needs, expectations, desires, demands, and values. Through the use of a PPB system a principal focus can be established and maintained relative to goals, priorities, objectives, and related outputs.

PPBS has evolved as a system of concepts and principles focusing upon policy planning, programming, and budgeting. The successful application and use of PPBS concepts and principles depends upon the nature and qualities of the societal context in which they are applied and used as tools for public policy decison making. The societal context may be broad or narrow. It may contain many complex organizations or only a limited number of relative simple organizations. Applications will vary depending upon the complexity of the societal context and its organizations, their environmental settings, and their internal and external relations and interactions.

Among the relevant attributes of public agencies which will influence the degree of success achieved through the application and use of PPBS concepts and principles, are the nature and quality of their:

1. Strategic planning processes and resulting statements of philosophy, purpose, priority, and policy.

2. Decision-making, communication, observation and measurement, and evaluation processes.

3. Organizational setting, structure, climate, and management behavior.

4. Leadership, subordinate, and peer group supportive, team building and participation, work facilitation, and goal emphasis behavior.

5. Organizational commitments, capacities and capabilities, patterns of involvement, and accountability relations.

6. Organizational potentialities, current states, demonstrated patterns of achievement, and change characteristics.

7. Improvement and renewal, regulation, production, support, and maintenance programs.

8. Explicitly-stated output and performance requirements and criteria.

9. Available inputs--information, energy, and resources for decisive goal-directed action and change.

10. Attitudinal dimensions and motivational characteristics.

11. Values, norms, and roles.

12. Internal and external change forces, influences, relations, and actions.

The nature and quality of relevant cultural, societal, and environmental settings, relations, and interactions will also influence the application and use of PPBS. Organizations transact input and output exchanges with other societal elements located in their respective surroundings. The effectiveness of individual organizations is determined by the quality of its outputs as judged by their ability to satisfy the needs and desires of those societal elements who receive

their outputs as inputs. Organizations must maintain favorable input-output balances to maintain themselves. The outputs they produce are expected to provoke a new flow and supply of inputs. Since PPBS is a policy decision-making tool, its component concepts and principles must be applied in a manner that will strengthen the adaptive qualities of organizations in their dynamic cultural, societal, and environmental settings.

## PPBS Design Considerations*

PPBS is an approach to decision making that is designed to help make the probable consequences (i.e., costs and values) of major alternative choices as explicit as possible and to encourage the use of available choice-consequence information systematically in the making of public policy. As an integrated system, PPBS is the logical outcome of over fifty years of evolutionary change and improvement in the techniques of planning, programming, budgeting, accounting, and analysis. Normally, such changes and innovations are put into practice quite slowly. In contrast, PPBS was introduced in the Department of Defense in 1961 and a deliberate major effort to reform governmental policy decision-making practice was made in 1965 when it was introduced in twenty other federal agencies. The effort was accompanied by political fanfare and--in retrospect--exaggerated expectations.

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*This section and the two sections immediately following are adapted from Jack W. Carlson "The Status and Next Steps for Planning, Programming, and Budgeting," in The Analysis and Evaluation of Public Expenditures: The PPB System (Washington: D.C.: U.S. Government Printing Office, 1969), pp. 613-798.

PPBS helps deal with problems in a comprehensive way through two closely related changes in the process of making government resource allocation decisions. The first of these is premised on the belief that the expansion of our knowledge in the social and physical sciences and of the sophistication and quantity of data holds great promise for improving specific decisions of the government if, and only if, this knowledge can be brought to bear on problems at the right time and in the right place. Therefore, one thrust of PPBS is to develop and apply this type of knowledge in a meaningful way to major issues as they arise.

In many areas, however, major decision points are not obvious. Resources are committed by accretion over time, with no occasion on which the relationship between limited resources, the universe of need, and the effectiveness of the program receive specific attention. This can result in either overinvestment or underinvestment in a particular area. Therefore, the second purpose of PPB has been to improve the normal decision process so that questions of comparative costs, benefits, resource inputs, outputs, and effectiveness are routinely raised and comprehensively considered. Even if data or conceptual knowledge are scarce with respect to a particular area of government activity, improvements can be made by developing a decision process that insures that these crucial questions are not simply ignored. The purpose is to achieve explicitness about objectives and outputs; to aggregate costs and programs according to objectives; to develop alternative methods of accomplishing objectives; to analyze benefits, outputs, and costs at whatever level of sophistication is possible; and to project the extent to which future options are mortgaged by past or present

decisions. A key part of this is the development of overviews of program areas that display, insofar as possible, comparative data on related programs.

The two objectives--applying knowledge to specific issues and improving the decision process--are very much intertwined. Nonetheless, they are separable to some extent in both concept and practice, and it is worthwhile to point out the difference. Many debates over PPBS are conducted with one party talking major issues and the other discussing the decision-making process and the need for program overviews. In evaluating PPB both must be taken into account.

If these objectives are to be achieved, a formal system is necessary. New methods of approaching problems may evolve slowly without such a system, but a deliberate attempt to increase the rate of change requires one.

The formal system developed for PPB was based on several premises: First, PPBS would be tied into the budget cycle, partly because this is the only recurring administrative process through which almost all major decisions must pass and partly because it is the government's formal resource allocation process and decision forcing mechanism. Second, the major responsibility for developing PPBS would belong to the agencies. It seemed obvious that no improvement in the decision processes or increase in the quality of information and analysis brought to bear on major issues could be made unless the decision makers were interested in the improvement. Third, since many diverse agencies were to be covered, the system established had to be somewhat flexible so as to allow scope for adaptation.

## The Goals of PPBS

As a systematic tool for public policy decision making, PPBS is an integrated process. The purpose of PPBS is to:

1. Help decision makers allocate limited public resources more effectively.
2. Reduce the portion of the budget that is "uncontrollable."
3. Understand the actual impact of educational programs.
4. Assure the orderly presentation of relevant analysis for decision making.
5. Identify programs that no longer serve priority objectives.
6. Integrate long-range objectives with current year budgets.
7. Connect planning and budgeting with actual performance (programs).

## The Components of PPBS

The component parts of PPBS are: (1) program structures which display each agency's physical and financial activities according to objectives or common outputs; (2) issue letters which summarize the agency's and higher level organizations' lists of major policy issues in need of analysis and evaluation during each planning and budgeting cycle; (3) program memoranda which register agency choices between alternatives and summarize relevant analysis affecting the decisions; (4) special analytic studies which reflect intensive analysis of particular problems; (5) program and financial plans which display for the past two and next four years data on the financial inputs and physical outputs resulting from proposed and past commitments.

1. Program Structure:

This is a grouping of agency activities into objective-oriented classifications so that programs with common objectives or common outputs are considered together, along with the cost of each. Programs whose outputs are closely related and are, therefore, substitutes or complements are grouped together in broad categories such as "education." Each category is further subdivided into, for example, "developement of basic skills," "development of vocational and occupational skills," etc. These subcategories are further subdivided into more detailed elements.

The major purpose of the program structure (PS) is to make possible better analysis of agency programs by organizing cost and output information so as to include all areas relevant to a problem. It should also produce a number of other benefits, however. The exercise of putting together a program structure is often very useful in that it forces agency personnel to devote explicit attention to the objectives of different agency programs and to their differences and similarities. In itself, this exercise can produce useful insights. In addition, the program structure, if well done, highlights possible tradeoffs and alternatives that might not be considered if an agency examined its programs only in terms of organizational alinements or appropriations categories. Finally, the structure can reveal gaps in agency programs or new alternatives which have not been considered before.

2. Issue Letters:

These are letters from the executive level of organization to each

agency defining the major program issues (MPI) that should receive attention during the current planning and budgeting cycle. They are the product of negotiation among agencies and levels of organization in the multi-level, multi-organizational system of public enterprise. The rationale behind the identification of major issues is the need to focus the limited analytic resources on the more important problems, the importance of reaching agreement upon the nature of the problems involved, and the value of analysis which can broaden the range of policy alternatives considered by the agency and the executive level of organization.

3. Program Memoranda:

The program memoranda (PM) for a selected major program category is intended to be a brief document summarizing the decisions made by an agency on major issues in the program category and articulating the reasons for them. It should incorporate the results of any analysis bearing on the issue, identify the alternatives considered, and state explicitly the assumptions made in the evaluation.

The requirement of a PM helps insure that decisions are in fact made on the basis of evidence and after consideration of alternatives, that the choices made are deliberate rather than accidental, and that they do in fact represent the decisions of the agency head. Further, PM's are intended to serve as bases of discussion by identifying similarities and differences in the judgments of agencies located at different levels of organization thus promoting focused, relevant discussion of major problems. PM's also should show not only current year costs, both direct and indirect, of new projects or

programs but also costs in the future as well. Finally, they may serve as a means of policy guidance within an agency.

4. Special Analytical Studies:

This category of document is extremely broad; it means any piece of work analyzing a particular problem with the object of coming to conclusions that can be used in the policy-making process. Such studies could be economic analyses, sociological evaluations, data collection efforts, development of useful techniques, mathematical models, or almost anything else that is appropriate to the particular issue. Ideally, special analytical studies (SAS) are done in advance on the major issues that should be covered in the PM's. In practice, of course, the process is seldom that tidy. As a result, there are two basic types of studies: those that analyze--in terms of whatever theory and data are immediately available--questions which must be decided in the course of the current planning and budgeting cycle, and those that develop concepts or information for decisions which must be made in the future.

5. Program and Financial Plans:

A program and financial plan (PFP) lays out, by program category, and for the current and next four years, the funds committed to various program areas by past decisions and, wherever feasible, projected program outputs for the same period. It also includes two preceding years and thus includes a total of seven years.

Since the executive level must recommend a budget to the legislative

level in terms of the legislatively established appropriations structure, the plan also provides a "crosswalk" which translates program costs classified by objective-oriented category into individual appropriation requests.

The PFP is intended as a bridge to relate annual budget allocations more closely to longer-term plans and priorities, and thus provides a tool for department heads to gain more discretion over future budgets.

The concept of commitment used for the PFP is necessarily rather amorphous. It includes expenditures or appropriations to which the agency is committed by law or contract, but it also includes obligations that are logically or morally compelled by past decisions. There is some looseness in defining the concept because of the wide divergence in the areas covered and lack of experience in using it carefully. The basic purpose behind the PFP is to identify the extent to which future budget choices are already foreclosed so that remaining options are identified, and so that future consequences of present decisions are routinely identified and considered during the decision process.

## The PPBS Process

PPBS was designed as a process that would encourage the analysis of major policy issues and provide a method of making explicit tradeoffs among programs aimed at similar objectives. It was tied into the budget cycle to assure relevance and was organized flexibly to allow adaptation to the unique characteristics of each agency in multi-level, multi-organizational system of public enterprise.

Five formal components of the PPB system have been identified and

each was described relative to an agency's or a multi-level, multi-organizational system's budget process. Each component is designed to fulfill a particular role within an integrated sequence of budget formulation, approval, and implementation events. Using Figure 15 as a referent, it is possible to visualize the dynamic role of each PPBS component.

The dynamic aspects of the PPBS process are portrayed in graphic form with fiscal years of time on the horizontal axis and levels of organization on the vertical axis. The following areas of cyclic activity are distinguished:

1. Agencies at the legislative level receive the budget proposal, hold budget hearings, and approve the budget or adopt a continuing resolution.

2. The executive level receives and appraises the results of legislative actions, develops fiscal and budget directives, transmits issue letters, and approves expenditure of funds.

3. The managerial level appraises major program issues, develops special analytical studies, coordinates the design and continuously updates the multi-year program and financial plan, controls and evaluates program progress, and performs other program management functions.

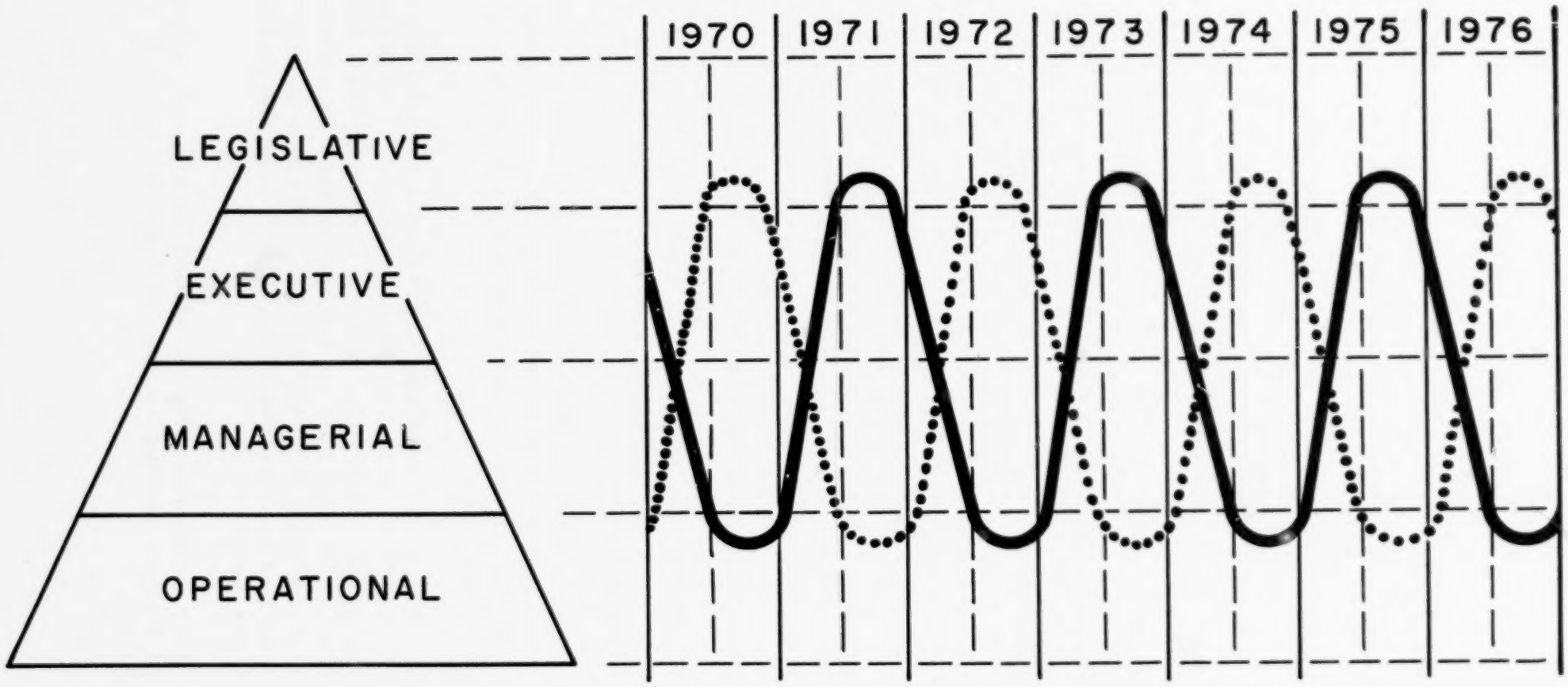
4. The operational level installs and operates special analytical studies, executes program operations according to plan, and accounts for the financial and performance aspects of goal-directed efforts.

5. The managerial level appraises operational reports and determines the relative effectiveness of program progress, develops and transmits program memoranda, revises the multi-year program and financial plan in light of new or changes in purpose, priority, or policy, and provides policy-planning, policy-programming, and policy-budgeting services to the chief executive officer.

6. The executive level develops an annual budget and presents the annual budget message to the legislative level of organization.

Figure 15

# THE DYNAMIC ASPECTS OF THE PPBS PROCESS




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | | |
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | |
| | | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
| | | | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
| | | | | 1972 | 1973 | 1974 | 1975 | 1976 |

## An Overview of PPBS

PPBS is a public policy decision-making process and is designed to work in multi-level, multi-organizational contexts of public enterprise. The complexity of the public education context is outlined in Figure 15. Relative to such systems of public enterprise, PPBS has four design aspects. Each aspect can be used to investigate its nature and qualities as a comprehensive tool for public policy decision making. The degree of inclusiveness and integration attained among these aspects during PPB system development, installation, and operation will determine the level of effectiveness which can be achieved through use of it as a decision-making tool.

1.0 Organizational Aspects of PPBS
- 1.1 strategic planning processes
- 1.2 organizational setting, climate, and management behavior
- 1.3 organizational commitments, capacities and capabilities, patterns of involvement, and accountability relations
- 1.4 organizational potentialities, current state, and demonstrated patterns of achievement
- 1.5 leadership, subordinate, and peer group behaviors
  - 1.5.1 supportive behavior
  - 1.5.2 team building behavior
  - 1.5.3 work facilitation behavior
  - 1.5.4 goal emphasis behavior
- 1.6 interaction-influence system
  - 1.6.1 organization structure
  - 1.6.2 observation, measurement, and evaluation processes
  - 1.6.3 communication processes
  - 1.6.4 decision-making processes
  - 1.6.5 available inputs--information, energy, and resources for decisive goal-directed action and change

- 1.6.6 internal and external change forces, influences, relations, and actions
- 1.6.7 explicitly-stated output and performance requirements and criteria
- 1.6.8 values, norms, and roles
- 1.6.9 attitudinal dimensions and motivational characteristics

1.7 organizational change characteristics
- 1.7.1 plans, operations, and output characteristics
- 1.7.2 growth and development characteristics
- 1.7.3 environmental characteristics

2.0 Structural Aspects of PPBS
- 2.1 adaptive frameworks and planned change strategies
- 2.2 program structures
- 2.3 program classifications, categories, and codes
- 2.4 organizational programs
  - 2.4.1 improvement and renewal programs
  - 2.4.2 regulation programs
  - 2.4.3 production programs
  - 2.4.4 support programs
  - 2.4.5 maintenance programs

3.0 Analytical Aspects of PPBS
- 3.1 system analysis, synthesis, and evaluation
- 3.2 mission, function, task, and methods-means analysis
- 3.3 cost-value analyses
  - 3.3.1 cost-benefit studies
  - 3.3.2 cost-effectiveness studies
- 3.4 special analytical studies (SAS)

4.0 Information Aspects of PPBS
- 4.1 management information system messages
- 4.2 PPBS information documents
  - 4.2.1 multi-year program and financial plans
  - 4.2.2 program memoranda
  - 4.2.3 issue letters
  - 4.2.4 special analytical study reports
  - 4.2.5 PPB system design and documentation study reports
- 4.3 strategic, managerial, and operational plans and reports

Evans presented a basic model of the relations that exist among the above indicated aspects of PPBS (Figure 16).[68] The model integrates

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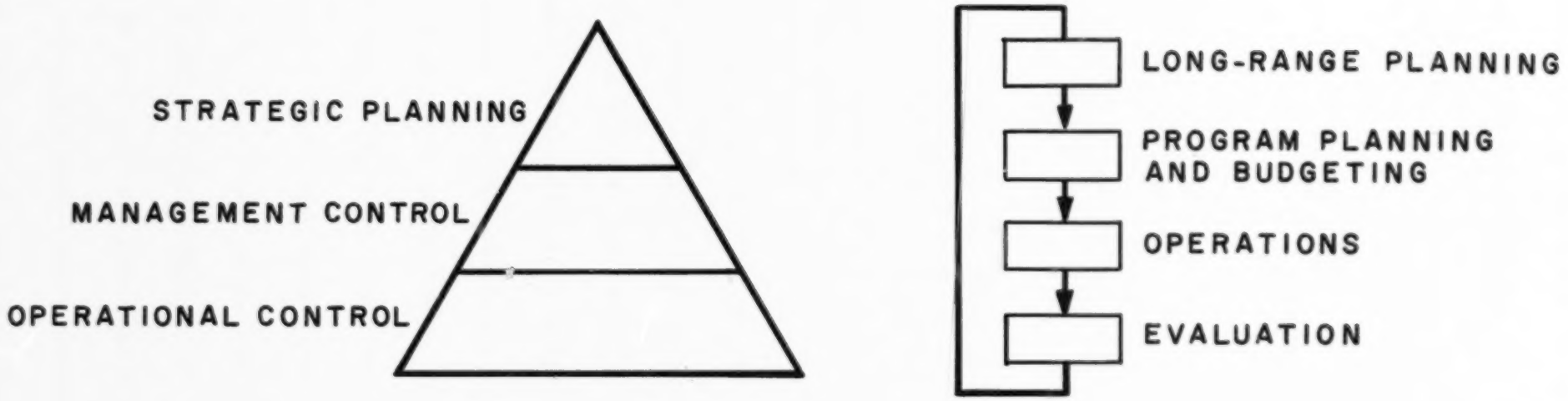
[68] John A. Evans, PPBS: From Budgeting and Programming to a Planning Programming, Budgeting System. An OPERATION PEP Monograph, Burlingame, California, 1970.

Figure 16

# PPBS: WHAT IS IT ?



the essential aspects of PPBS and can be used to emphasize the qualities of an operational PPB system in terms of decision making, planning and control, and operational procedures. The model attempts to answer the question, "PPBS: What is it?"

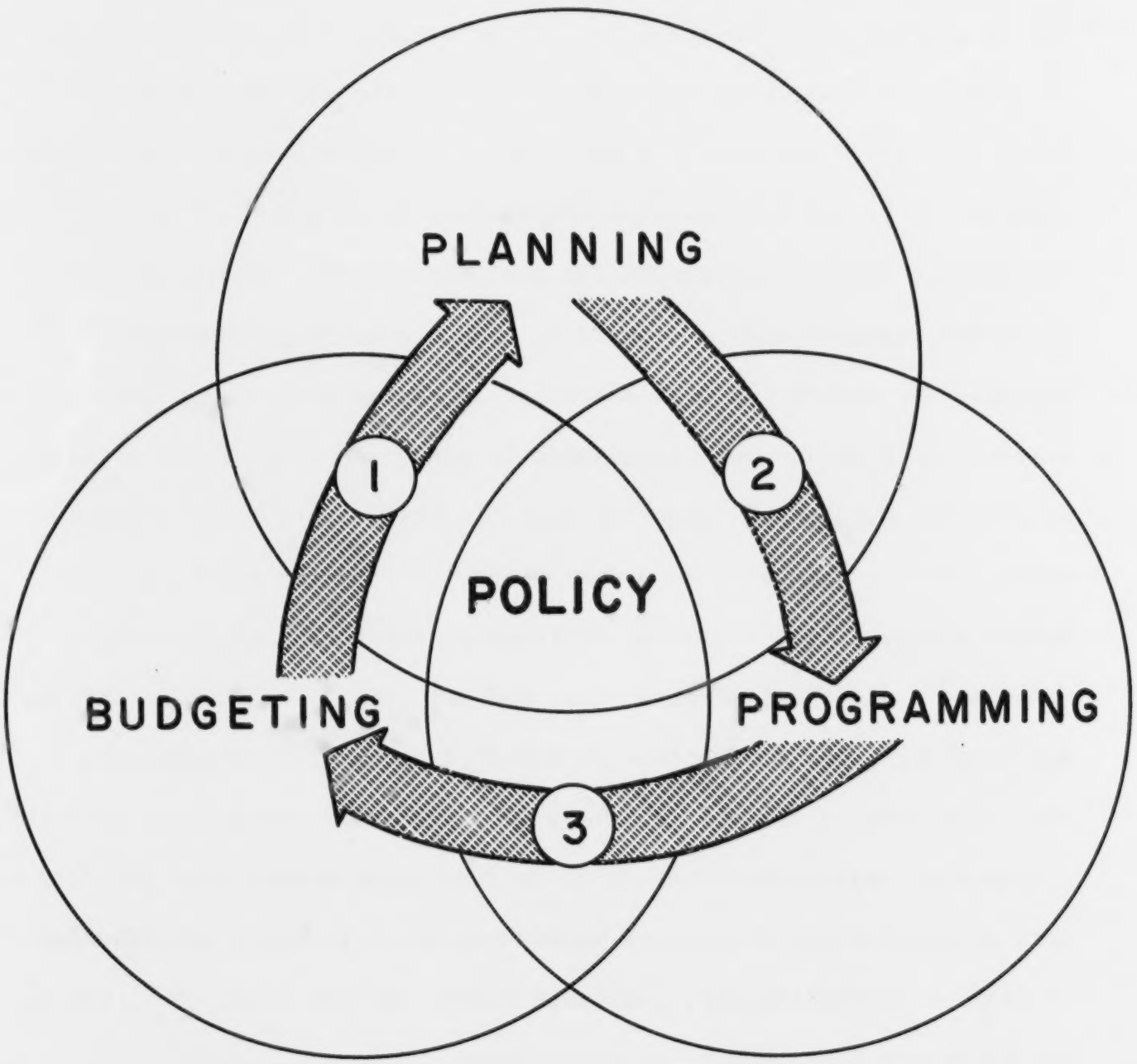
## A Basic PPBS Model

A model of PPBS that focuses on public policy decision making and societal change incorporates policy as a central element in planning, programming, and budgeting (Figure 17). This relationship establishes "policy planning," "policy programming," and "policy budgeting" as three important aspects of societal change and, correspondingly, the management of goal-directed achievement in organizations. Therefore, an essential consideration in the definition and discussion of planning, programming, and budgeting is that each be related to policy decision making as an adaptive process of societal and organizational change.

Planning is the conscious determination of courses and/or methods-means for action and change that promises to facilitate accomplishment of preconceived purposes. In an organizational setting, planning must encompass all relevant aspects of the organization and its external environment. It involves making assumptions and predictions regarding probable future states, situations, and conditions to be experienced by the organization. An adaptive framework is developed which incorporates present and future state variables. The framework can then be used as an analytical structure for the collection and integration of goal-related change evidence. To the maximum extent possible, the evidence is integrated using valid and relevant data and information made available

Figure 17

# PPBS: A SYSTEM FOR PUBLIC POLICY DECISION MAKING




1. APPRAISING PROGRAM ACCOMPLISHMENTS AND FUTURE OPPORTUNITIES
2. TRANSFORMING STRATEGIC PLANS INTO PROGRAMS
3. ALLOCATING INPUTS FOR ACHIEVEMENT OF PROGRAMS

as a result of research activities, appraisals of past and present achievements, trends analyses, and forecasting efforts.

The evidence produced creates an organizational awareness of a need for change. The organization formulates new and/or redefines its long-range goals consistent with the available change evidence. It sets priorities among these goals and selects for accomplishment those of highest priority. A spectrum of probable future events to be experienced by the organization is assessed in an effort to define alternative milestone pathways for goal attainment. Alternative milestone pathways and corresponding probable contingencies are appraised to decide the most satisfactory course of action. The selected pathway for goal attainment is projected relative to critical achievement events. Alternative sets of intermediate-range mission objectives are specified in proper dimensions of time relative to future probabilities, critical achievement events and major mission outcomes, rationales, requirements, and criteria. The most satisfying set of intermediate objectives is selected for goal attainment and each objective in the set is subset into arrays of subordinate alternative short-range objectives. Selection is made among alternative subordinate sets of short-range objectives based upon their probable contribution to mission accomplishment, available inputs and the time, cost, value, and technical requirements of achievement.

Throughout the planning process purposive elements are selected and then subset into alternative arrays of component parts. The component array judged to be most satisfactory is selected and combined in hierarchical arrangement with the purposive element of which it is a part. In this fashion, branching hierarchical networks of goals and

objectives are developed. With each advancing stage or level of network construction, alternatives are developed and the most satisfactory alternative is selected and incorporated as a part of the network. An appraisal of network adequacy is performed at each level of construction and appropriate revisions are made when necessary. Such revisions usually entail the recombining of network parts into more responsive configurations. The end product is a branching hierarchical network of long-range goals and intermediate-range and short-range objectives. Corresponsingly, time-phased branching networks of events and activities can be developed to determine the time, cost, value, and technical requirements of achievement.

Planning is concerned with deciding: (1) what changes are needed; (2) what purposes are to be attained; (3) why action and change are necessary; (4) what courses and/or methods-means for action and change are required; (5) when action must be effected; (6) where and under what conditions action will take place; (7) how actions are to be managed; (8) who will be made responsible for performing specific actions and to whom will authority be delegated; (9) how achievements will be evaluated; and (10) how the effectiveness and the efficiency of performance will be determined.

Planning requires data and information relative to goal-related issues, opportunities, and problems concerning which decisions must be made. Knowledge of present and probable future organizational and environmental states, situations, and conditions that will influence the search for satisfactory alternatives is also a necessary requisite for planning. Such knowledge reduces the uncertainties associated with the future and can be used to transform risks identified as a

spectrum of probabilistic successes and/or failures into predictable achievement. Anticipated difficulties, contingencies, and consequences (costs and values) are projected and their time-phased implications for achievement are determined as precisely as possible. Probable future choice-consequence relations and the availability of necessary inputs are assessed. Planning is a continuous process that requires complete, accurate, relevant, and timely information for maximal effectiveness.

Planning in relation to policy decision making includes such activities as:

1. Gathering data and information on both the external environment and the organization internally, in order to find the major problems, needs, and issues facing the organization.

2. Assessing, evaluating, and interpreting factors which may limit organizational development, effectiveness, efficiency, and/or continuity.

3. Formulating basic assumptions, making predictions, and preparing scenarios relative to desired future organizational states or goals and related achievement factors.

4. Deriving, specifying, and negotiating statements of purpose and setting priorities among these purposes.

5. Developing alternative courses and/or methods-means for action and change based on the evidence gathered, factors assessed, assumptions formulated, predictions made, and needs and problems investigated.

6. Selecting a preferred alternative course and/or methods-means for action and change (policy) from among available alternatives in light of future probabilities.

Programming involves the transforming of strategic plans into programs. A program is a group of closely related and interdependent inputs and activities that can be defined relative to the achievement of specific purposes and related milestone events. In an organizational setting, programs are major, mission-oriented endeavors that are

developed, installed, and operated toward the achievement of prespecified purposes and/or the production of desired outcomes. The primary referents used in programming are organizational philosophies, purposes, priorities, and policies. Programs are designed to be consistent with the foregoing strategic plans and also to fulfill specific output and performance requirements of the organization.

As a process, programming involves deciding what plans and strategies will be used to implement the policy decisions made in planning. It is concerned with the scheduling of activities and events toward the accomplishment of major organizational missions. Programming also involves allocating available resources to program elements in terms of defined achievement requirements. This is usually accomplished using a time-phased branching network of mission or program activities and events.

The time-phased branching network is developed using network-based management procedures such as Planning, Evaluation, and Review Techniques (PERT) or Critical Path Method (CPM). The information inputs for such procedures are derived from mission, function, and task-level analytical studies which are performed relative to program purposes using analysis and synthesis techniques. In addition, separate but related methods-means analytical studies are performed at the mission, function, and task levels of analytical study. The result of such analytical studies is information regarding activities, events, and input requirements for successful accomplishment of the program mission.

During programming, specific plans and strategies for operations are developed. In this respect, programming is closely related to management and operational control procedures. Output and performance

requirements and criteria are used as referents in both programming and program control procedures. The primary difference in the two activities is one of time--programming is completed before program control procedures can be fully developed. Thus, programming can be regarded as an extension of planning that is performed to assure quality program outputs, desired levels of effectiveness and efficiency in organizational achievement.

Budgeting is the periodic determination of detailed plans for the allocation of financial and performance resources to organizational programs. Budgeting is oriented to both planning and programming. It involves allocating inputs for achievement of programs, appraising program accomplishments, and exploring future opportunities. Budgeting involves the preparation of financial and performance plans which detail the achievement capabilities of an organization for a definite period of time, or periods of time, based on estimates of expenditures and proposals for acquiring and allocating necessary inputs.

In general, a budget is regarded as a financial plan for a specific period of time that is detailed in terms of: (1) estimated costs, obligations, and expenditures; (2) sources of revenues, including reimbursements anticipated and other inputs to be applied; and (3) descriptive and predictive workload data relative to purposes, programs, outputs, and activities. A program budget, on the other hand, is oriented to planning and programming and is based on the strategic plans of the organization. In its development, the costs and values of alternative courses and/or methods-means for action and change are considered and output requirements and criteria for the effective and efficient achievement of chosen objectives are displayed.

Budgeting entails the development of a functional plan for the management of performance inputs (resources, energy, and information) and expenditures in terms of output and performance requirements and criteria. It is developed within the scope of basic policies, established legal requirements, and the pattern of authority delegated by the policy-making structure of the system. The budgeting process includes the development of statements of the financial and performance position of the organization for a definite period of time, or for definite periods of time, based on estimates of revenues and expenditures anticipated during the budget period, or periods, and the proposed alternatives for securing revenues and allocating inputs. Thus, a budget is a formal expression of policy, and budgeting entails policy formulation.

In summary, a PPB System is a highly complex and diverse public policy decision-making tool that can be used to promote change in public affairs and public enterprise. Realizing the complexity of PPBS as a time-bound and goal-directed decision-making process, its adoption and use by any organization will require considerable organizational commitment, changes in structure, and strategic plans, management leadership, and staff training. A survey of PPB literature would reveal several often-cited advantages that can be gained by organizations who adopt and use PPBS as a public policy decision-making tool. Citations of such advantages generally hold that:

1. PPBS is adaptive to a wide range of organizational structures, climates and management behaviors.

2. PPBS emphasizes the need for organizations to specify their purposes, set priorities among these purposes, establish policies toward the achievement of specified purposes, and insure that available inputs are used efficiently and effectively in achieving them.

3. PPBS requires recognition of the extent to which current decisions commit organizations to future expenditures.

4. PPBS prompts the use of systematic measurement techniques which can be used to appraise the probable consequences (costs and values) of alternative programs and provide complete, accurate, relevant, and timely information for policy decision making. Such techniques can be used to evaluate the probable positive and negative impacts of such consequences on existing or potential programs and related policy decisions.

5. PPBS was designed originally as a comprehensive tool for public policy decision making. As a comprehensive tool, it provides a variety of systematic methods-means for communicating, negotiating, and implementing policy changes.

6. PPBS provides system analysis processes which can be used to assess needs for public services, find significant problems, define relevant missions, search for promising alternatives, develop problem resolution plans and strategies, and develop procedures for the effective and efficient management of planned change.

7. PPBS can be used to establish significant relations between valued targets, long-range goals, intermediate-range and short-range objectives, outputs, plans, strategies, procedures and available inputs, and the effect of past decisions on future input availability.

8. PPBS provides an adaptive program framework which facilitates the use of network-based management procedures that can be employed to determine time, cost, value, and technical requirements in achievement and to develop corresponding output and performance measures for each requirement.

9. PPBS requires that organizations develop and apply relevant scientific and technological knowledge in a meaningful way to major program issues as they arise.

10. PPBS is designed to improve public policy decision-making processes so that questions of comparative costs, values, inputs, outputs, effectiveness, and efficiency are routinely raised and comprehensively considered.

# CHAPTER VII

## A STRATEGY FOR PLANNED CHANGE IN PUBLIC EDUCATION

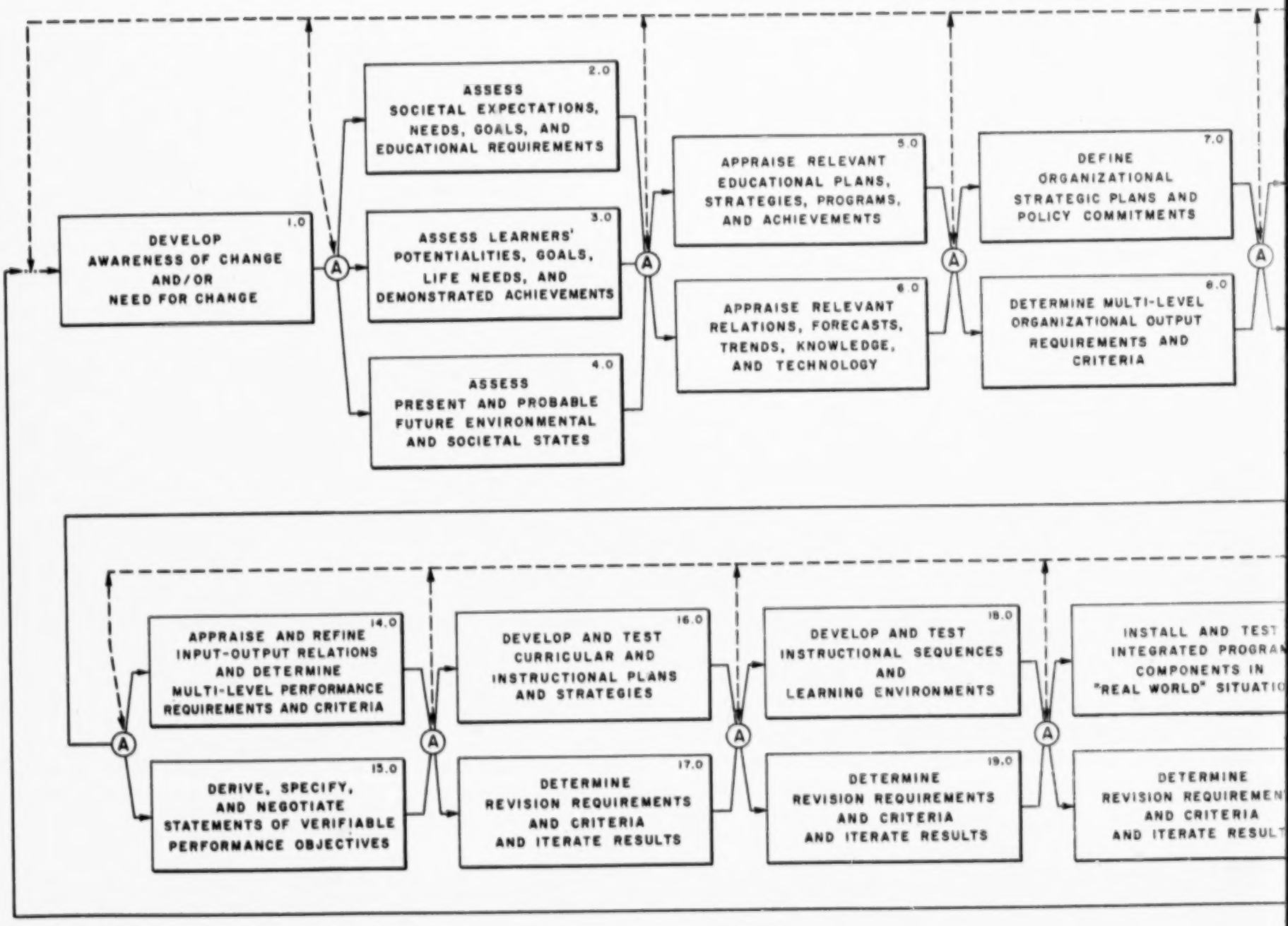
The design for a strategy for planned change in public education is based upon relevant activities in: (1) educational planning and management; (2) system analysis, synthesis, and evaluation; (3) policy formulation; and (4) policy implementation. The strategy is presented in the form of a procedural network (flow diagram) containing twenty-six interrelated and interdependent activities. These activities can be subset into many subactivities or tasks which can be performed to improve policy-formulation and policy-implementation processes in public education.

The strategy (Figure 18) provides a dynamic perspective of a systematic course of planned educational change. It can be considered to encompass two sequences of policy-related activities. The top sequence of activities (1.0--13.0) is a policy-formulation strategy that is designed to translate valued societal targets and relevant change information into organizational policy. The bottom sequence of activities (14.0--26.0) is a policy-implementation strategy that is designed to develop an efficient and effective organizational response to the defined values, goals, needs, and desires of society. This sequence is a policy-based strategy featuring management by objectives throughout the life cycle of an educational program. Both component

Figure 18

A FLOW DIAGRAM OF ACTIVI

IN A SYSTEMATIC COURSE OF PLANNED EDU


1.0
DEVELOP AWARENESS OF CHANGE AND/OR NEED FOR CHANGE
2.0
ASSESS SOCIETAL EXPECTATIONS, NEEDS, GOALS, AND EDUCATIONAL REQUIREMENTS
3.0
ASSESS LEARNERS' POTENTIALITIES, GOALS, LIFE NEEDS, AND DEMONSTRATED ACHIEVEMENTS
4.0
ASSESS PRESENT AND PROBABLE FUTURE ENVIRONMENTAL AND SOCIETAL STATES
5.0
APPRAISE RELEVANT EDUCATIONAL PLANS, STRATEGIES, PROGRAMS, AND ACHIEVEMENTS
6.0
APPRAISE RELEVANT RELATIONS, FORECASTS, TRENDS, KNOWLEDGE, AND TECHNOLOGY
7.0
DEFINE ORGANIZATIONAL STRATEGIC PLANS AND POLICY COMMITMENTS
8.0
DETERMINE MULTI-LEVEL ORGANIZATIONAL OUTPUT REQUIREMENTS AND CRITERIA
A
14.0
APPRAISE AND REFINE INPUT-OUTPUT RELATIONS AND DETERMINE MULTI-LEVEL PERFORMANCE REQUIREMENTS AND CRITERIA
15.0
DERIVE, SPECIFY, AND NEGOTIATE STATEMENTS OF VERIFIABLE PERFORMANCE OBJECTIVES
16.0
DEVELOP AND TEST CURRICULAR AND INSTRUCTIONAL PLANS AND STRATEGIES
17.0
DETERMINE REVISION REQUIREMENTS AND CRITERIA AND ITERATE RESULTS
18.0
DEVELOP AND TEST INSTRUCTIONAL SEQUENCES AND LEARNING ENVIRONMENTS
19.0
DETERMINE REVISION REQUIREMENTS AND CRITERIA AND ITERATE RESULTS
INSTALL AND TEST INTEGRATED PROGRA
COMPONENTS IN "REAL WORLD" SITUATIO
DETERMINE REVISION REQUIREMEN
AND CRITERIA
AND ITERATE RESULT

D. R. MILLER
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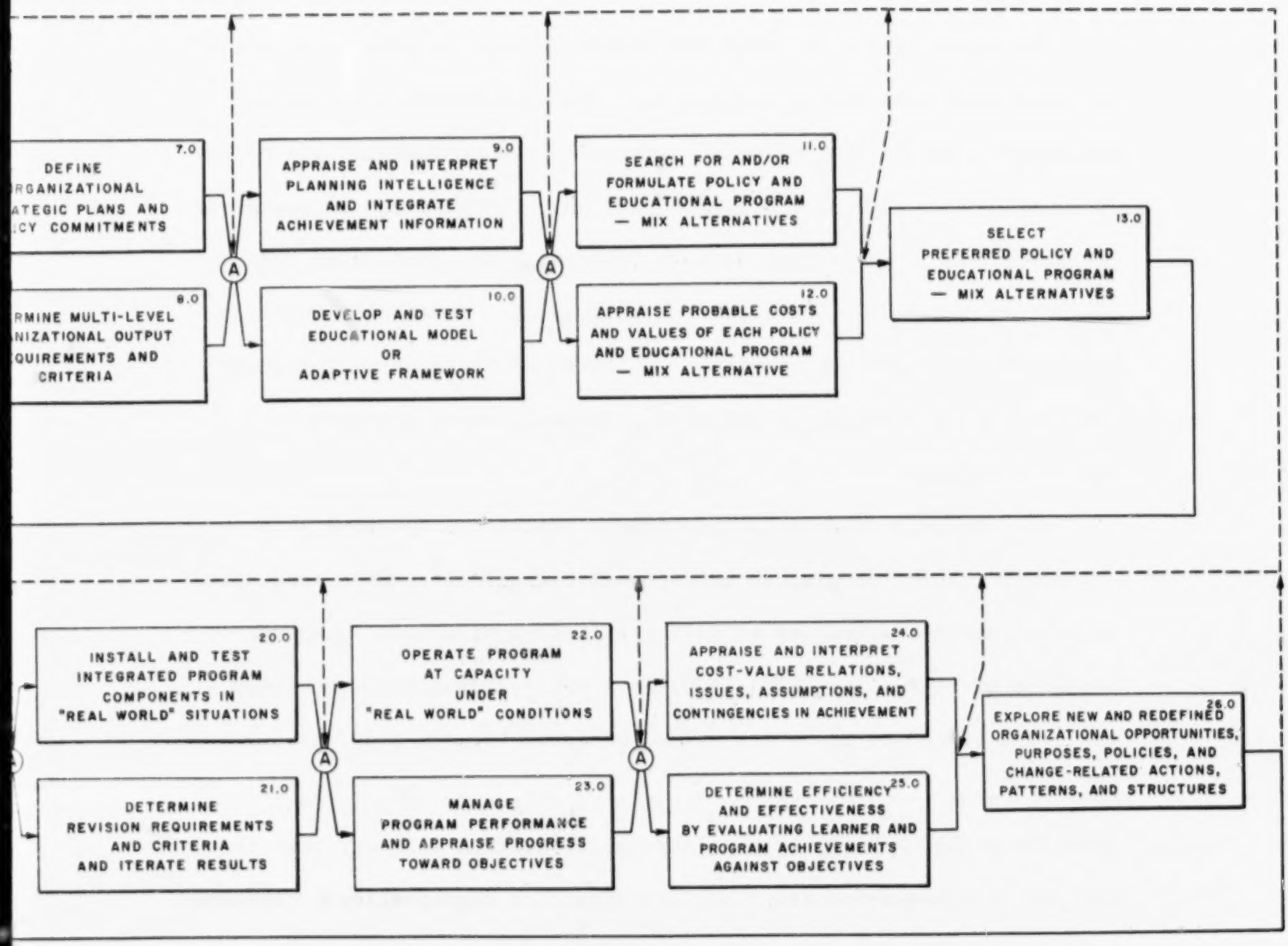
RAM OF ACTIVITIES

PLANNED EDUCATIONAL CHANGE


7.0
DEFINE ORGANIZATIONAL ATEGIC PLANS AND CY COMMITMENTS
9.0
APPRAISE AND INTERPRET PLANNING INTELLIGENCE AND INTEGRATE ACHIEVEMENT INFORMATION
11.0
SEARCH FOR AND/OR FORMULATE POLICY AND EDUCATIONAL PROGRAM — MIX ALTERNATIVES
13.0
SELECT PREFERRED POLICY AND EDUCATIONAL PROGRAM — MIX ALTERNATIVES
8.0
RMINE MULTI-LEVEL NIZATIONAL OUTPUT QUIREMENTS AND CRITERIA
10.0
DEVELOP AND TEST EDUCATIONAL MODEL OR ADAPTIVE FRAMEWORK
12.0
APPRAISE PROBABLE COSTS AND VALUES OF EACH POLICY AND EDUCATIONAL PROGRAM — MIX ALTERNATIVE
A
A
20.0
INSTALL AND TEST INTEGRATED PROGRAM COMPONENTS IN "REAL WORLD" SITUATIONS
22.0
OPERATE PROGRAM AT CAPACITY UNDER "REAL WORLD" CONDITIONS
24.0
APPRAISE AND INTERPRET COST-VALUE RELATIONS, ISSUES, ASSUMPTIONS, AND CONTINGENCIES IN ACHIEVEMENT
26.0
EXPLORE NEW AND REDEFINED ORGANIZATIONAL OPPORTUNITIES, PURPOSES, POLICIES, AND CHANGE-RELATED ACTIONS, PATTERNS, AND STRUCTURES
21.0
DETERMINE REVISION REQUIREMENTS AND CRITERIA AND ITERATE RESULTS
23.0
MANAGE PROGRAM PERFORMANCE AND APPRAISE PROGRESS TOWARD OBJECTIVES
25.0
DETERMINE EFFICIENCY AND EFFECTIVENESS BY EVALUATING LEARNER AND PROGRAM ACHIEVEMENTS AGAINST OBJECTIVES
A
A

strategies require the use of continuous system analysis, synthesis, and evaluation procedures. This model, as well as each of the models presented previously, can be used to emphasize the need for educational organizations to carefully plan, integrate, coordinate, guide, and control their efforts relative to the development, installation, and operation of an integrated planning and management system.

Another perspective can be gained by considering network activities in relation to: (1) assessing relevant change contexts (26.0--6.0); (2) constructing adaptive frameworks and change models (7.0--10.0); (3) formulating plans and strategies for effecting change (11.0--17.0); (4) finding organizational and management problems (18.0--21.0); and (5) providing viable alternatives for problem resolution (22.0--25.0).

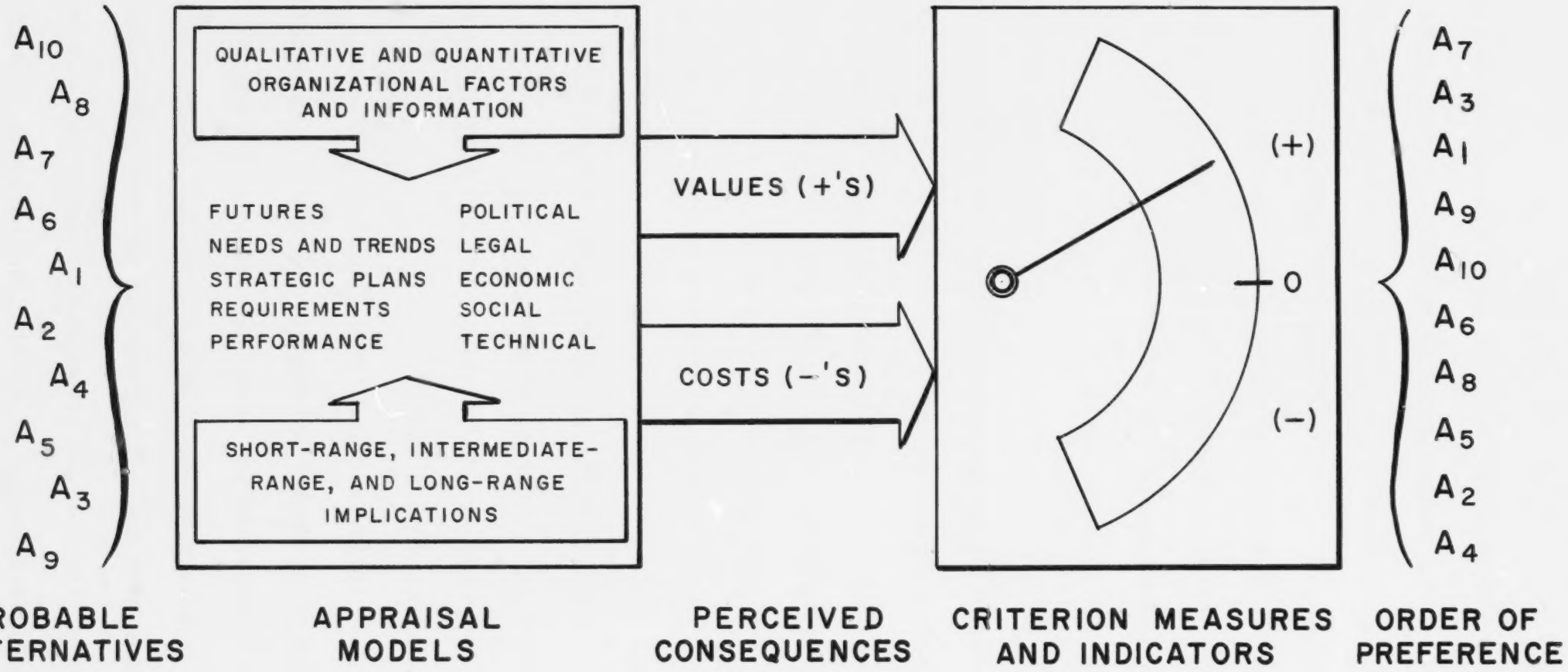
In several activity descriptions the term "program-mix" is used to refer to the integrated programs of an organization. It is hoped that this usage will forestall the tendency to consider programs as separate units of organizational effort in goal attainment. One must remember that in planning and management the organization must be considered as a whole in an environment. Use of the term "program-mix" will cause planners and managers to view organizational efforts in goal attainment as a whole.

In activity 11.0 and 12.0, educational planners and managers are expected to conduct a systematic appraisal of promising alternatives. Figure 19 presents the essential aspects of such appraisal by depicting probable alternatives, relevant appraisal models, perceived consequences, criterion measures and indicators, and the final order of preference.

In activity 15.0, educational planners will be required to develop verifiable statements of educational outcomes or outputs. A classification

Figure 19

# THE SYSTEMATIC APPRAISAL OF PROMISING ALTERNATIVES*




* ADAPTED FROM E. S. QUADE, AS PRESENTED IN E. S. QUADE AND W. I. BOUCHER (EDS.), SYSTEMS ANALYSIS AND POLICY PLANNING (NEW YORK: AMERICAN ELSEVIER PUBLISHING COMPANY, INC., 1968), p. 13.

scheme for outputs (Figure 20) should be considered during the performance of this activity. By "direct" outputs we refer to those outputs which will be produced at the end of a learning sequence. By "indirect" outputs we refer to learning products which will be produced or can be verified at some future point in time. A direct outcome of teaching children to recognize letters of the alphabet would be their ability at the close of the learning sequence to point out separate letters of the alphabet and tell an observer the name of the letter. An indirect output of this activity would be the children's ability to demonstrate this same output at some future point in time.

By "tangible" output we refer to skills and knowledges which are readily verifiable through the use of standard observation and measurement techniques. By "intangible" outputs we refer to that class of outputs which includes attitudes, beliefs, and values. Whereas tangible outputs can be measured using the primary properties of concepts and objects present in the learning sequence, intangible outputs must be measured using the secondary properties of concepts and objects in the learning sequence. Since most goals for public education focus upon the development of skills, knowledges, competencies, and social proficiencies which relate to life in a future world, they focus upon indirect intangible outputs. This critical future relations requirement of outcome component statements should be reflected in each objective that is defined to facilitate planned change in individual behavior in a continuous progress educational program.

In activity 17.0, planners are expected to "iterate results" after first determining revision requirements and criteria. Iteration is the key to analysis. Figure 21 presents iteration as a cycle of

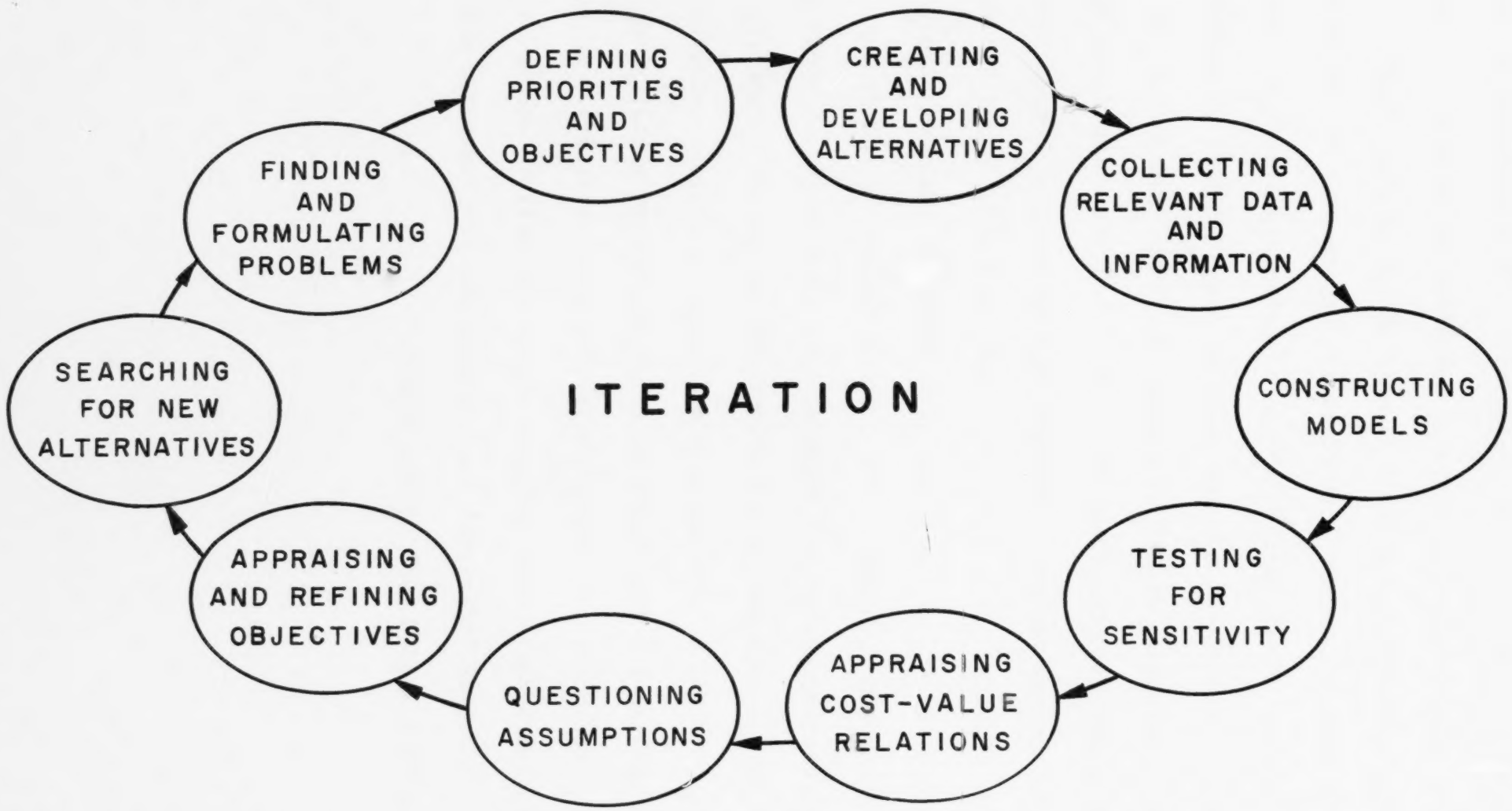
Figure 20

# CLASSIFICATION SCHEME FOR OUTPUTS

| | DIRECT | INDIRECT |
|---|---|---|
| TANGIBLE | DIRECT TANGIBLE | INDIRECT TANGIBLE |
| INTANGIBLE | DIRECT INTANGIBLE | INDIRECT INTANGIBLE |

Figure 21

# ITERATION: THE KEY TO ANALYSIS*

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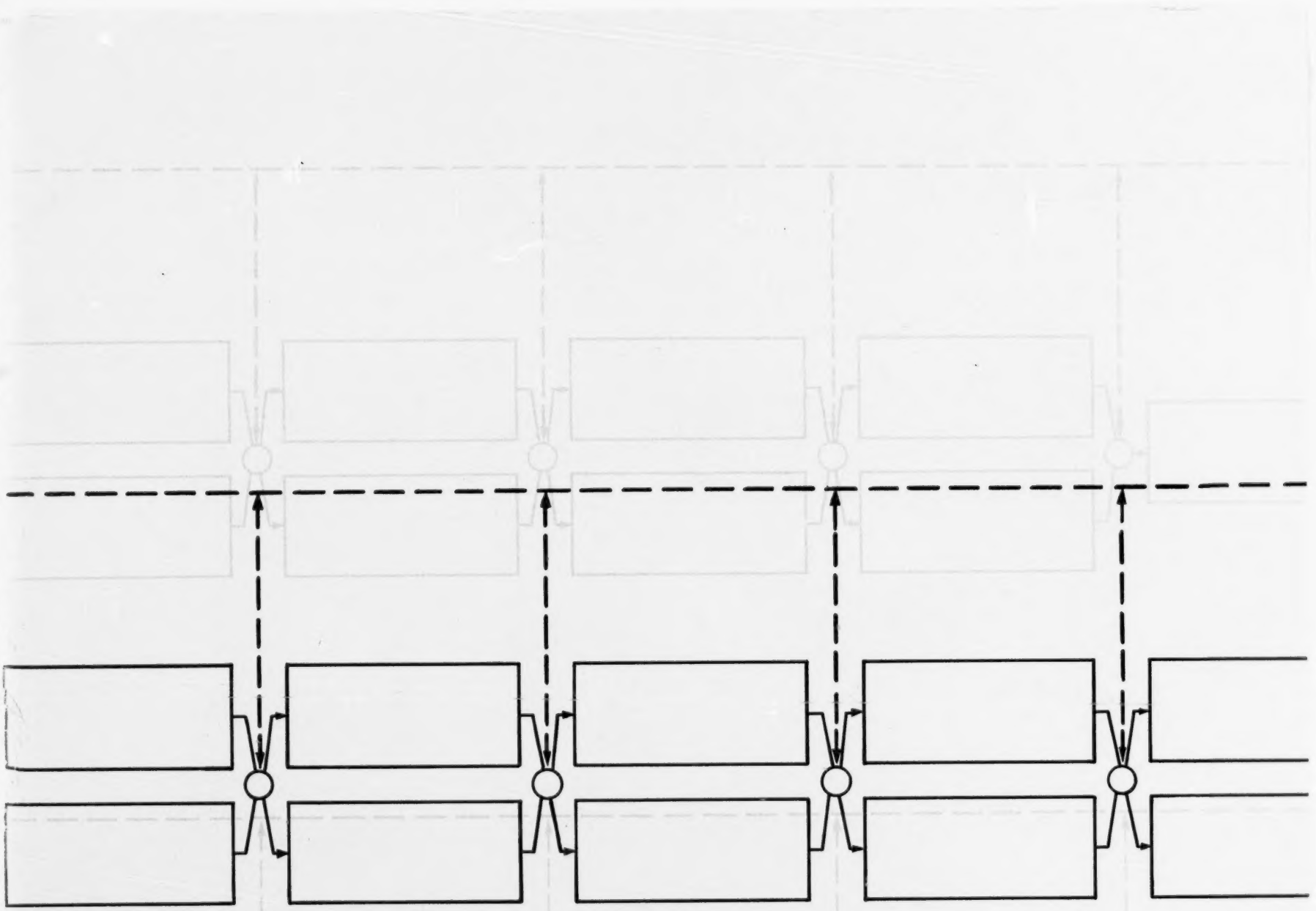
planning considerations and activities. Each iteration factor presented in the cycle should be carefully appraised in an effort to improve the quality and effectiveness of planned change alternatives.

A flow diagram of activities in a systematic course of planned educational change (Figure 18) is an open-loop strategy. The outputs of activity 26.0 can be used to create an awareness of change and/or a need for change at a future point in time. The dotted lines on the diagram are used to represent feedback control loops which facilitate continuous evaluation, iteration, and revision of outputs and planned change efforts. This system of feedback control loops is designed as a quality control or regulatory mechanism that can be used to assure the nature and quality of the outputs of planned change and, thereby, the effectiveness of the organization. The entire strategy focuses upon policy-formulation and policy-implementation parameters in planned change. Planners and managers of change in public education systems must realize the importance of balancing system planning and management considerations with human organization considerations. As every effective leader knows, planned change can only be accomplished through the efforts of individual human beings who are organized and motivated to produce needed and desired change.



# OPERATION PEP

**a state-wide project to prepare educational planners for California**